FY2005

Indiana Army Ammunition Plant

Installation Action Plan

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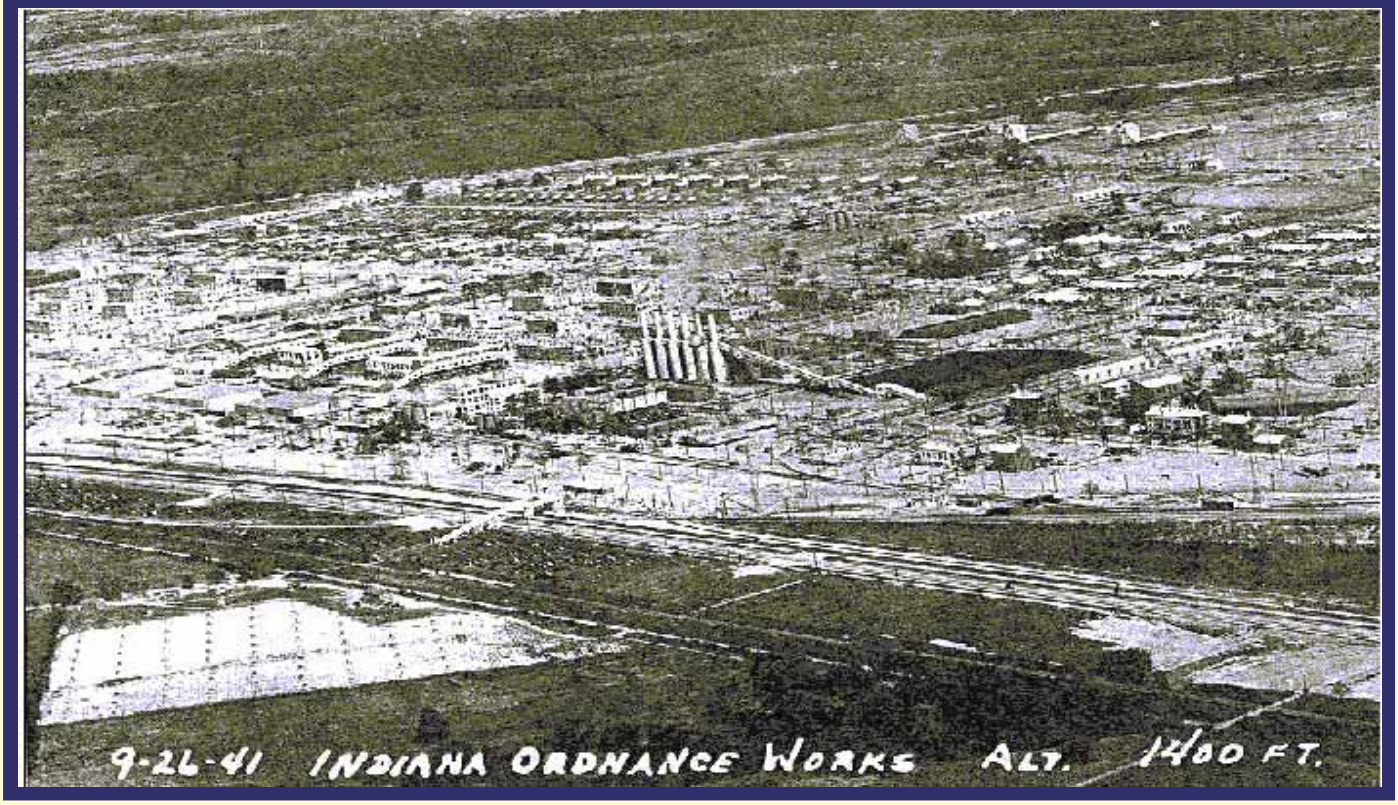

FY 2005
Indiana Army Ammunition Plant

INSTALLATION ACTION PLAN

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year restoration program for an installation. The plan will define Installation Restoration Program (IRP) requirements and propose a comprehensive approach and associated costs to conduct future investigations and remedial actions at each AEDB-R site on the facility.

In an effort to coordinate planning information between the IRP Manager, major army commands, installations, executing agencies, regulatory agencies, and the public, an IAP has been completed for the Indiana Army Ammunition Plant (INAAP). The IAP is used to track requirements, schedules and tentative budgets for all major Army installation restoration programs.

All site specific funding and schedule information has been prepared according to projected overall Army funding levels and is therefore subject to change during the document's annual review. Under current project funding, all remedies will be in place at INAAP by the end of 2008.

The following agencies contributed to the formulation and completion of the FY2005 Installation Action Plan:

BRAC Technical Office, INAAP Environmental Coordinator

Engineering and Environment, Inc.

Indiana AAP, Commander's Representative

Indiana AAP Installation Restoration Program

Indiana Department of Environmental Management

Indiana Reuse Authority

URS, Inc.

US Army Corps. of Engineers, Louisville District

US Fish and Wildlife Service

Acronyms & Abbreviations

AEDB-R	Army Environmental Database - Restoration
ALF	Abandoned Landfill
ADRA	Ammunition Demilitarization and Renovation Area
ASI	Advanced Sciences, Inc.
AST	Aboveground Storage Tank
BAP	benzo-a pyrene
bgs	below ground surface
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CMI	Corrective Measure Implementation
CMD	Corrective Measure Design
CMP	Corrective Measure Proposed Plan
CMS	Corrective Measure Study
Cu	Copper
DDT	Dichlorodiphenyltrichloroethane
DERA	Defense Environmental Restoration Account
DNT	Dinitrotoluene
DRMO	Defense Reutilization and Marketing Office
DSERTS	Defense Site Environmental Restoration Tracking System (now AEDB-R)
EM	Electromagnetic
ER,A	Environmental Restoration, Army (formally called DERA)
EPA	U.S. Environmental Protection Agency
ESE	Environmental Science & Engineering, Inc.
ESMP	Endangered Species Management Plan
FFSRA	Federal Facility Site Remediation Agreement
FS	Feasibility Study
FY	Fiscal Year
GAC	Granular Activated Carbon
GPR	Government Profile and Response
GO/CO	Government-Owned/Contractor-Operated
GO/GO	Government-Owned/Government-Operated
HI	Hazard Index
HOP	Hoosier Ordnance Plant
ICI	ICI Americas, Inc.
IDEM	Indiana Department of Environmental Management
INAAP	Indiana Army Ammunition Plant
IOW	Indiana Ordnance Works Plant 1
IRA	Interim Removal Action
IRP	Installation Restoration Program
JMC	Joint Munitions Command
LAP	Load, Assembly & Pack
LSM	Louisville Scrap Material
LTM	Long-term Monitoring
MCL	Maximum Contaminant Level
MSL	Mean Sea Level

Acronyms & Abbreviations

NE	Not Evaluated
NFA	No Further Action
NG	Nitroglycerine
NR	Not Rated
NPL	National Priority List
OB/OD	Open Burning / Open Detonation
OSC	Operations Support Command (formerly Industrial Operations Command)
P&E	Propellant and Explosive
PAH	Polyaromatic hydrocarbons
PA	Preliminary Assessment
Pb	Lead
PCB	Polychlorinated Biphenyls
POL	Petroleum, Oil & Lubricants
PRP	Potentially Responsible Party
RA	Remedial Action
RA(C)	Remedial Action (Construction)
RA(O)	Remedial Action (Operation)
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
REM	Removal
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SAP	Sampling and Analysis Plan
Sb	Antimony
SI	Site Inspection
STP	Sewage Treatment Plant
SVOC	Semi-Volatile Organic Compounds
SWQC	Surface Water Quality Criteria
TCE	Trichloroethylene
TPH	Total Petroleum Hydrocarbons
ug/g	microgram per gram
ug/l	microgram per liter
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Center
USAEHA	United States Army Environmental Hygiene Agency (replaced by CHPPM)
USATHAMA	United States Army Toxic and Hazardous Material Agency (replaced by AEC)
UST	Underground Storage Tank
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds

Summary

STATUS:

NON NPL, RCRA-Part B and Subpart X interim status for OB/OD, IDEM issued letter on 15 December 1998 stating regulatory oversight for remedial corrective action activities was transferred from EPA Region V to IDEM's Corrective Action Section in the Hazardous Waste Facilities Branch.

NUMBER OF AEDB-R SITES:

88 AEDB-R Sites
19 Active sites
69 Response Complete
Note: Proposed RCRA Permit under public comment period.
All No Further Action (NFA) sites will be listed in an attachment to the permit documenting IDEM concurrance with NFA designation.

DIFFERENT AEDB-R SITE TYPES:

7 Burn Areas
5 Contaminated Buildings
5 Surface Impoundments/Lagoons
1 Contaminated Sediments
5 Disposal Pits/Dry Wells
17 Landfills
3 Maintenance Yards
1 Pistol Range
1 Pesticide Shop
1 Contaminated Groundwater
1 Washrack
17 Storage Areas
10 Other
1 Spill Site Area
7 Sewage Treatment Plants
1 Aboveground Storage Tank
3 Underground Storage Tanks
1 Waste Lines
1 Surface Runoff

CONTAMINANTS OF CONCERN:

Propellant, Explosives, VOCs, SVOCs, Metals

MEDIA OF CONCERN:

Groundwater, Surface Water, Soil, Sediment

COMPLETED REM/IRA/RA:

none

CURRENT IRP PHASES:

RFI: 2 sites CMD: 1 site CMI: 14 sites RA(O): 3 sites LTM: 1 site

PROJECTED IRP PHASES:

RFI: 1 site CMD: 1 site CMI: 3 sites RA(O): 3 sites LTM: 5 sites

IDENTIFIED POSSIBLE REM/IRA/RA:

INAAP-04, 05: In-situ soil solidification, soil cover
INAAP-19, 44, 46, 54, 83: Soil removal
INAAP-06: Hot spot removal, dam rehabilitation, phytoremediation and erosion control
INAAP-01: Soil cover
INAAP-25: Soil cover w/potential downstream hot spot removal
INAAP-26, 27, 28, 34, 46, 56, 59, 60: Soil removal/ soil cover
INAAP-63: Soil & sediment removal, close sewers in place

DURATION:

Year of IRP Inception	1992
Year of RA Completion	2008
Year of IRP Completion	2030

Installation Information

SITE DESCRIPTION:

Indiana Army Ammunition Plant (INAAP) is located on 9,790 acres of land in Clark County, Indiana. Indiana Army Ammunition Plant is 1.5 miles north of the greater Louisville Metropolitan Area. Potential for development at INAAP is very positive. The Ohio River borders INAAP on the Eastern side.

COMMAND ORGANIZATION:

MAJOR COMMAND: U.S. Army Installation Management Agency
SUBCOMMAND: U.S. Army Joint Munitions Command
INSTALLATION: Indiana Army Ammunition Plant, Installation Management Division.

IRP EXECUTING AGENCIES:

INVESTIGATION/ACTION PHASE: U.S Army Corps of Engineers, Great Lakes and Ohio River Division, Louisville District

REGULATORY PARTICIPATION:

FEDERAL: U.S. Environmental Protection Agency (EPA), Region V
STATE: Indiana Department of Environmental Management

REGULATORY STATUS:

RCRA Part B/ Subpart X Permit withdrawn June 1997. IDEM issued a letter on 15 December 1998 stating regulatory oversight for remedial corrective action activities was transferred from EPA Region V to IDEM's Corrective Action Section in the Hazardous Waste Facilities Branch.

MAJOR CHANGES TO IAP FROM PREVIOUS YEAR:

- During FY04, IDEM offically approved NFA on 2 sites: INAAP-09 and INAAP-75.

- RFIs/CMSs: Completed INAAP-19 and INAAP-44

- RDs: Completed INAAP-09 and Burning Ground Area; Initiated INAAP-06

- Initiated the Remedial Action Phase at 2 sites. INAAP-19 and INAAP-25.

- Completed RA at INAAP-45

Installation Description

INAAP encompasses approximately 9,790 acres in south-central Clark County, Indiana. Its southern boundary is approximately 6 miles north of Jeffersonville, Indiana and 10 miles from Louisville, Kentucky, across the Ohio River. INAAP is a part of the U.S. Army Joint Munitions Command (JMC) and is classified as a government-owned and contractor-operated facility which has been declared excess by the Army. The facility is currently operating under a Master Lease with the INAAP Reuse Authority. The Master Lease is administered by the Louisville District, Corps of Engineers. The facility will eventually be transferred to the state of Indiana and the Indiana Army Ammunition Plant Reuse Authority per Public Law 105-85, Section 2838, Military Construction Authorization Act of Fiscal Year 1998 and Section 2843, Military Construction Authorization Act for Fiscal Year 1999.

143 acres of INAAP are classified as improved grounds, 635 are classified as semi-improved grounds, 6,202 as unimproved grounds, and 2,810 as commercial forest (ASI 1994). Of the 9,790 acres, approximately 1,140 are being leased to the state as part of Charlestown State Park. The current Installation Natural Resources Management Plan identifies grazing leases currently in use on the facility.

Historical Background

INAAP was built during WW II to manufacture and assemble propellants and explosives. INAAP's mission at that time included:

- Operation and maintenance of active facilities in support of current operations, specifically the manufacture of igniters and bag propellant charges, and maintenance and/or layaway of standby facilities in a condition that permits the resumption of production
- Receipt, surveillance, maintenance, renovation, storage, physical inventory, demilitarization, and salvage functions
- Procurement, receipt, storage, and issue of necessary supplies, equipment, components, and essential materials
- Industrial readiness planning and emergency mobilization planning
- Product assurance functions in support of procurement and production
- Production engineering and process engineering

The Plant was originally constructed as three separate facilities: the Indiana Ordnance Works Plant 1 (IOW), the Hoosier Ordnance Plant (HOP), and the Indiana Ordnance Works Plant 2 (IOWP). The three facilities were consolidated into the Indiana Arsenal in 1945. The Indiana Arsenal was redesignated as the Indiana Ordnance Plant in 1961; in August 1963, it was redesignated again as the Indiana Army Ammunition Plant (ASI 1994).

Contamination Assessment

INAAP is a non-NPL installation. In 1994, a CERCLA Phase I RI program was initiated to evaluate 85 sites. The Indiana Department of Environmental Management (IDEM) issued a letter on 15 December 1998 stating regulatory oversight for remedial corrective action activities had been transferred from U.S. Environmental Protection Agency (EPA) Region V to IDEM's Corrective Action Section in the Hazardous Waste Facilities Branch. IDEM is currently the lead regulatory agency.

INAAP has been issued several operating permits by IDEM and EPA Region V, some of which remain in effect. These permits govern operations for air emissions, wastewater treatment plant (NPDES) discharges, solid wastes, and hazardous wastes. It is assumed that all future work at INAAP will be part of a RCRA corrective action under the oversight of IDEM.

INAAP has a total of 90 Army Environmental Database - Restoration (AEDB-R) sites including storage tanks, sanitary and construction debris landfills, open storage areas, and surface impoundments.

Propellant, explosives, volatile organic compounds, semivolatile organic compounds, and metals are the primary contaminants of concern at INAAP. In 1994, a Preliminary Assessment/Site Investigation (PA/SI) determined that the potential for off-site contamination did exist. Source area investigation activities have been performed at 64 sites. A Phase I remedial investigation was started in fiscal 1997 and completed in 1998. Although the majority of these sites required NFA (No Further Action), a strong baseline for future work was extablished at INAAP. Currently there are 19 sites that are still receiving funding for investigation and/or remediation. The majority of the environmental contamination is related to previous activities in the Propellant & Explosive Area (INAAP-63), the burning ground and surrounding areas, and the respective drainage areas.

Karst geology and the post-1941 wastewater-enhanced dissolution has complicated the investigation and remediation of the sites. INAAP's karst geology includes enlarged fractures, joints and caves in the limestone that influence the flow direction, quantity, and quality of the groundwater.

The Gray Bat is an endangered species, and their presence will complicate the IRP. A maternity colony has been verified at INAAP.

Contamination Assessment

Title	Author	Date
Excess Area Contamination Survey of Indiana Army Ammunition Plant	Environmental Science and Engineering, Inc.	1981
Final Report, Contamination Survey, Indiana Army Ammunition Plant, Charlestown, Indiana	Dames & Moore	1984
Site Investigation: An 858.63 Arce Parcel Excess under the Base Realignment and Closure Act, Indiana Army Ammunition Plant, Charlestown, Indiana, Vol 2	US Army Corps of Engineers, Louisville	1992
Site Investigation: An 858.63 Arce Parcel Excess under the Base Realignment and Closure Act, Indiana Army Ammunition Plant, Charlestown, Indiana, Vol 1	US Army Corps of Engineers, Louisville	1992
Preliminary Site Inspection for Indiana Army Ammunition Plant	ENSR Consulting & Engineering	1992
Preliminary Site Inspection for Indiana Army Ammunition Plant,Charlestown, Indiana	Advanced Sciences, Inc.	1994
Preliminary Assessment, Indiana Army Ammunition Plant	Woodward Clyde Federal Services	1995
Environmental Baseline Survey, Indiana Army Ammunition Plant, Charlestown, Clark County, Indiana	Plexus Scientific Corporation	1998
Initial Assessment of INAAP, Report No. 154	US Army Toxic and Hazardous Materials Agency	Jan-80
Environmental Contamination Survey of INAAP Exploratory Phase	Dames & Moore	Dec-84
Environmental Contamination Survey: Exploratory Phase	Dames and Moore	Jun-85
Groundwater Contamination Survey, 38-26-0857-88	USAEHA	Jun-85
Preliminary Site Inspection for INAAP, Report No. 392781, prepared for the US Army Toxic and Hazardous Material Agency	US Army Corps of Engineers	Feb-92
Preliminary Site Inspection for Indiana Army Ammunition Plant Charlestown, Indiana, prepared for US Army Environmental Center.	Advanced Sciences, Inc.	Apr-94
A preliminary Assessment of Hydrogeologic Significant Solution and Fracture Features, Indiana Army Ammunition Plant	Indiana Geological Survey	Nov-95
Preliminary Assessment, Indiana Army Ammunition Plant. Prepared for ICI on behalf of the US Environmental Center	Woodward Clyde Federal Services,	Dec-95
Division of Fish and Wildlife, Inventory of the Subterrain Biota Threatened by the Ubanization of Clark and Floyd Counties, Indiana	Indiana Department of Natural Resources.	May-96
Bat Survey at the Indiana Army Ammunition Plant at Charlestown, Indiana	US Fish and Wildlife Service	Oct-97
Phase I Remedial Investigations Report	Woodward Clyde Federal Services	Dec-98
Draft Final Phase 1 RI Report, Volumes 1 through 4	Woodward Clyde Federal Services	Dec-98
Draft Phase II RFI Report, Installation Groundwater - Site 90	URS Group, Inc.	Jun-01
Revised Final Report, Preliminary Characterization Study, P&E Area, Volumes 1 through 3	URS Group, Inc.	Jun-01
Draft Phase II RFI Report, Jenny Lind Pond - Site 25	URS Group, Inc.	Jul-01
Draft Phase II RFI Report, P&E Flume - Site 54	URS Group, Inc.	Aug-01
Draft Phase II RFI Report, Burning Ground Area (Sites 26, 27, 28, 34, 46, 56, 59, 60)	URS Group, Inc.	Sep-01
Draft Phase II RFI Report, LAP Area - Site 75	URS Group, Inc.	Oct-01
Draft Phase II RFI Report, Igloo Area (Site 76)	BAT Associates, Inc.	31-Jan-02
Final Phase II RFI Report, Process Waste Settling Basin - Site 6	URS Group, Inc.	Apr-02

Contamination Assessment

Title	Author	Date
Final Phase II RFI Report, South Ash Settling Basin - Site 4	URS Group, Inc.	Apr-02
Final Phase II RFI Report, North Ash Settling Basin - Site 3	URS Group, Inc.	Apr-02
Final Phase II RFI Report, Aniline Pond - Site 5	URS Group, Inc.	Apr-02
Final Phase II RFI Report, Building 66: 1 Sump - Site 87	URS Group, Inc.	May-02
Final Phase II RFI Report, 1500 Shops Area Drainage - Site 45	URS Group, Inc.	May-02
Final Phase II RFI Report, P&E Area Flume - Site 54	URS Group, Inc.	May-02
RFI Report, Igloo Area (Site 76)	BAT Associates, Inc.	24-May-02
Final Phase II RFI Report, Jenny Lind Pond - Site 25	URS Group, Inc.	Jun-02
Final Phase II RFI Report, LAP Area - Site 76	URS Group, Inc.	Jun-02
Final Phase II RFI Report, Burning Ground Area (Sites 26, 27, 28, 34, 46, 56, 59, 60)	URS Group, Inc.	Jul-02
Pre-Concept Design 10%, Corrective Measures for South Ash Settling Basin & Aniline Pond - Sites 4 & 5	URS Group, Inc.	Jul-02
Draft Phase II RFI Report, Former Inert Burning Ground Area - Site 55	URS Group, Inc.	Jul-02
Pre-Concept Design 10%, Corrective Measures for Process Waste Settling Basin - Site 6	URS Group, Inc.	Aug-02
Draft Phase II RFI Report, Suspected Propellant Burial Area East of "P" Loop - Site 24 - Site 55	URS Group, Inc.	Sep-02
Draft Final Report, Landfill Sites (69-4 and 69-5)	BAT Associates, Inc.	16-Sep-02
Preliminary Design 60%, Corrective Measures for Process Waste Settling Basin - Site 6	URS Group, Inc.	Dec-02
Pre-Concept Design 60%, Corrective Measures for South Ash Settling Basin & Aniline Pond - Sites 4 & 5	URS Group, Inc.	Dec-02

ACTIVE AEDB-R SITES

CERCLA AND RCRA ACRONYM CONVERSIONS

CERCLA		RCRA
PA Preliminary Assessment	=	**RFA** RCRA Facility Assessement
SI Site Investigation	=	**CS** Confirmation Study
RI/FS Remedial Investigation/ Feasibility Study	=	**RFI/CMS** RCRA Facility Investigation/Corrective Measures Study
RD Remedial Design	=	**CMD** Corrective Measures Design
RA(C) Remedial Action (Construction)	=	**CMI(C)** Corrective Measures Implementation (Construction)
RA(O) Remedial Action (Operations)	=	**CMI(O)** Corrective Measures Implementation (Operation)

INAAP-01
OLD LANDFILL

SITE DESCRIPTION

The Old Landfill occupies about 20 acres and is separated into east and west sections by Landfill Road. The landfill was active from 1969 to 1974. Prior to 1969, the area was reportedly used as a burning ground for garbage. The landfill reportedly contains general refuse, construction debris, nitrocellulose waste, and possibly PCBs. The landfill is unlined and soil covered. Various types of debris are visible, including debris north of the landfill in an area that is now part of Charlestown State Park. Perched groundwater was observed, generally where landfill debris was located, in 19 of 74 groundwater survey locations and in 11 of 22 soil borings.

The Phase I RI found elevated levels of a few SVOCs and TPH and low levels of VOCs, SVOCs, pesticides, PCBs and metals in the soil. Low levels of VOCs were detected in perched groundwater. Additional investigation defined the landfill boundries and the potential impact to groundwater. The Phase II RFI has been completed.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Pesticides
MEDIA OF CONCERN:
Soil
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
CMS (funded in FY04)
FUTURE IRP PHASE:
CMD, CMI, LTM

PROPOSED PLAN

CMD/CMI will include soil cover/solid waste removal, followed by LTM. INAAP is awaiting IDEM review of documents.

INAAP-04
SOUTH ASH SETTLING BASIN

SITE DESCRIPTION

The South Ash Settling Basin covers approximately 4.6 acres and intermittently received slurried ash from the south coal-fired power plant from 1941 to 1972. It also received wastewater from the P&E Area from the production of nitrobenzene, aniline, diphenylamine, and dimethylaniline. It may also contain nitrocellulose waste. The basin is located in a topographic low within the upper reaches of Jenny Lind Run, near the Gray Bat habitat area. The ground surface surrounding the basin is about 20 feet higher than the ground surface at the basin. An earthen dike formerly separated the site from the Aniline Pond (INAAP-05). A small intermittent stream flows through the basin. Groundwater was encountered at depths of 0.9 to 8.5 feet bgs.

Low levels of VOCs, SVOCs, pesticides and nitroaromatics/ nitroamines were detected in soil/sediment. Elevated levels of metals were also detected in the soils/sediment.

A final design was completed in FY03. The soil cover and erosion controls were installed in FY04 and is pending approval by IDEM.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Explosives
MEDIA OF CONCERN:
Soil, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE:
CMI, RA(O)
FUTURE IRP PHASE:
RA(O)

PROPOSED PLAN

O&M of the cover will be required. Periodic reviews of the remedy will be performed.

INAAP-05
ANILINE POND

SITE DESCRIPTION

The Aniline Pond covers approximately 1.4 acres and has a capacity of about 600,000 gallons. During World War II and the Korean Conflict, the pond received wastewater from the production of nitrobenzene, aniline, diphenylamine, and dimethylaniline. The Aniline Pond is located in a topographic low at the head of Jenny Lind Run. The ground surface surrounding the basin is about 5 feet higher than the ground surface at the pond. An earthen dike formerly separated the site from the South Ash Settling Basin (Site 4). Groundwater was encountered at depths of 0.3 to 1.0 feet bgs.

Low levels of several VOCs, SVOCs, pesticides and nitroaromatics/nitroamines and elevated levels of metals and a few VOCs/SVOCs were detected in soil. VOCs were detected in groundwater.

A final design was completed in FY03. The soil cover and erosion controls were installed in FY04 and is pending approval by IDEM.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Explosives
MEDIA OF CONCERN:
Soil, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE:
CMI, RA(O)
FUTURE IRP PHASE:
RA(O)

PROPOSED PLAN

O&M of the cover will be required. Periodic reviews of the remedy will be performed.

INAAP-06
PROCESS WASTE SETTLING BASIN

SITE DESCRIPTION

The Process Waste Settling Basin is located where the P&E Area Flume (Site 54) drains into Jenny Lind Run. It is approximately 1800'x 200' in dimension (66,000 cys) and was operational from 1940-45, 1952-54, and 1968-72.

The basin received effluent from the P&E Area in addition to lime and gypsum sludge and spent sulfuric acid. The basin is long and narrow with a stream flowing through the center of the basin. The basin has been filled in with sediment to the top of the dam outflow structure. The surrounding ground surface slopes steeply toward the basin and is covered by a thick growth of trees. Groundwater was encountered at a depth of about 1 foot bgs.

Low levels of VOCs, SVOCs, pesticides, PCBs and explosives and elevated levels of chromium, DNT, TPH, and BAP were detected in the soil. A Tier III Ecological Risk Assessment was completed in FY02.

STATUS

RRSE RATING: High
CONTAMINANTS:
VOCs, SVOCs, Metals, Explosives, Nitrocellulose
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE: CMI
FUTURE IRP PHASE:
CMI, LTM

This area supports the endangered Gray Bat *(myotis griescens)*.

A final RFI was completed in FY02, and the CMS was completed in FY03. Results indicate that currently there is no risk to human health, but there is a risk to the ecology/environment.

The 30% design was completed in FY03. A greenhouse treatablility study was completed in FY03 as part of the RD and was inconclusive. The recommended CMS alternative was subsequently modified. The modified alternative is supported by sediment transport analysis and eco-risk assessment which was completed in FY04.

PROPOSED PLAN

The modified alternative recommends hot spot remediation, and stabilization in place through dam rehabilitation, channel stabilization and phytostabilization. LTM will be required.

INAAP-19
SALVAGE YARD

SITE DESCRIPTION

The Salvage Yard is approximately a 200 foot by 700 foot, gravel-covered, and fenced area that has been used to store flashed scrap material (metal) from the Flashing Rack (INAAP-18) prior to removal by a private contractor. Other items possibly stored at the Salvage Yard may include waste oils, pesticides, metals, insecticides, battery acid, and soap. Groundwater was not observed in any borings at depths up to 10 feet bgs.

Low levels of a few VOCs, pesticides, and PCBs and elevated levels of lead, TPH and SVOCs were detected in isolated soil. Phase II RFI was completed in FY03. The CMI field work will be completed FY04.

STATUS

RRSE RATING: High
CONTAMINANTS:
SVOCs, Metals
MEDIA OF CONCERN:
Soil
COMPLETED IRP PHASE:
PA/SI, RFI, CMD
CURRENT IRP PHASE:
CMI
FUTURE IRP PHASE:
RC

PROPOSED PLAN

Soil excavation and off-site disposal will be completed in FY04.

INAAP-25
JENNY LIND POND

SITE DESCRIPTION

Jenny Lind Pond (~20 acres) is located about one-half mile upstream of the point where Jenny Lind Run discharges into the Ohio River. The earthen dam at the southeastern end of the pond had a principal and emergency spillway. The surrounding area slopes steeply toward the pond and is covered with woodlands. The discharge area below the dam along Jenny Lind Run is known to experience flooding during periods of elevated water levels in the Ohio River.

The watershed of Jenny Lind Pond includes all or part of 32 Phase I RI sites. The pond was built in the late 1950s to retain industrial wastewater before discharge to the Ohio River and has received P&E Area effluent. Previous investigations have detected organic compounds and metals in sediment and surface water.

The earthen dam failed in March 1997 as a result of precipitation and subsequent flooding of the Ohio River. The pond is completely drained. Beaver dams are a potential problem.

The endangered Gray Bat *(myotis griescens)* may be threatened by the metals contamination in the food chain.

STATUS

RRSE RATING: High
CONTAMINANTS:
VOCs, SVOCs, Metals, DNT, Nitrocellulose
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE: CMI
FUTURE IRP PHASE:
RA(O)

Low levels of VOCs, SVOCs, pesticides and PCBs and elevated levels of metals, nitroaromatics, and a few SVOCs were detected in the soil. The RFI and the CMS were completed in FY02. A 30% design was completed in FY03. The final design was completed and the CMI was initiated in FY04.

PROPOSED PLAN

Soil cover of the basin (13 acres)and erosion control is approved. A hot spot removal may be required downstream based on confirmatory sampling.

INAAP-26
OLD TRASH BURNING AREA

SITE DESCRIPTION

The Old Trash Burning Area is an irregular shaped area approximately 175 feet by 500 feet. This area was reportedly used to burn trash and general refuse prior to 1969. Debris was encountered 0 to 11 feet bgs underlaid by residual clay. Bedrock was not encountered in any of the borings, but was encountered in four of five trenches. Groundwater was only encountered in one trench at a depth of 11 feet bgs.

Low levels of VOCs and elevated levels of SVOCs, metals, DNT, and TPH were detected in soils. The RFI was completed in FY02. The final CMS, 10% design and 60% design were completed in FY04.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
Metals, VOCs, SVOCs, POL, Propellants, Explosives, Nitrocellulose, Nitrates
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE:
CMI
FUTURE IRP PHASE: RC

PROPOSED PLAN

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, 60 due to their proximity within the Burning Ground Area. The primary option is to cover in place (~12 acres total).

INAAP-27
BLDG 714-5 (LEAD SMELTING SHED)

SITE DESCRIPTION

Lead Storage Building 714-5 is a 350 square foot building with open sides. Scrap lead was reportedly melted into ingots at the site. Bedrock was encountered in two of three borings. Groundwater was not observed in any borings at depths up to 10 feet bgs.

The Phase I RI at Site 27 included the completion of three soil borings and the collection and analysis of 15 surface and subsurface soil samples. Chemical analysis for all samples included metals. Two samples were also analyzed for VOCs and SVOCs.

Low levels of VOCs, SVOCs and metals and elevated levels of lead were detected in the soil. The RFI was completed in FY02. The final CMS, 10% design and 60% design were completed in FY04.

STATUS

RRSE RATING: High
CONTAMINANTS:
VOCs, SVOCs, Metals, Nitrates, Nitrocellulose
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE:
CMI
FUTURE IRP PHASE: RC

PROPOSED PLAN

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, 60 due to their proximity within the Burning Ground Area. The primary option is to cover in place (~12 acres total). Soil removal with disposal off-site will be required.

INAAP-28
DRAINAGE AREA DUMPING GROUND

SITE DESCRIPTION

The Drainage Area Dumping Ground covers about 4,000 square feet and is overgrown with trees and shrubs. A drainage ditch runs through the center of the site and receives stormwater runoff from upgradient Sites 17, 26, 27, 34, 46, 56, and 60. The area was reportedly used to store general refuse, construction debris, maintenance materials, and metal containers from 1940 to 1969. Surface debris is visible at the site. Ground surface on both sides drains towards the ditch. The ditch draining stormwater runoff from the site eventually discharges into Jenny Lind Pond. Groundwater was not observed in any trench or boring to depths up to 10 feet bgs.

Elevated levels of SVOCs and lead were detected in the soil. It should be noted that upgradient ditch samples have elevated levels of mercury, arsenic and lead. The RFI was completed in FY02. The final CMS, 10% design and 60% design were completed in FY04.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Propellants, Explosives, Nitrates
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE:
CMI
FUTURE IRP PHASE: LTM

PROPOSED PLAN

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, 60 due to their proximity within the Burning Ground Area. The primary option is to cover in place (~12 acres total). Soil removal with disposal off-site will be required.

INAAP-34
TRASH INCINERATOR

SITE DESCRIPTION

The Trash Incinerator was enclosed within a cyclone fence in an area approximately 500 feet square. Waste paper was reportedly burned from 1940 to 1969. The location of ash disposal is unknown. Groundwater was not observed in the trench. Bedrock was encountered in the trench and all shallow soil samples. Black fine sand (possible ash material) was observed at the eastern edge of the trench.

Low levels of VOCs, SVOCs, DNT and TPH and elevated levels of lead were detected in the soil. The RFI was completed in FY02. The final CMS, 10% design and 60% design were completed in FY04.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Black Powder, Nitrates
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE:
CMI
FUTURE IRP PHASE: RC

PROPOSED PLAN

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, 60 due to their proximity within the Burning Ground Area. The primary option is to cover in place (~12 acres total). Soil removal with disposal off-site will be required.

INAAP-45
DRAINAGE AREA FOR 1500 AREA SHOPS

SITE DESCRIPTION

This site covers all the drainage area for the 1500 Area Shops. The 1500 Area Shops include several inert storage warehouses, a fire station, several maintenance shops, container renovation building, and a garage and gas station building. The buildings have concrete foundations and corrugated galvanized metal siding. The historical aerial photograph review shows that most of the buildings were constructed prior to 1949. The buildings are connected to the LAP Area Wastewater Treatment Plant.

Additional investigation in the drainage area found that no CMS was necessary. A final design was completed in FY03. Field work was completed in FY04. Hot spot removal of ~480 cy of soil has been completed.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
POL
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA/SI, RFI, CMI
CURRENT IRP PHASE:
RC

PROPOSED PLAN

Awaiting approval from IDEM for site closure.

INAAP-46
BLUFF DUMPING AREA

SITE DESCRIPTION

The Bluff Dumping Area consists of a flat area along the top of a bluff and a steep slope from the edge of the bluff to the floodplain of the Ohio River to the east. Waste/debris was reportedly disposed on the flat area and on the slope from 1946 to 1964. Waste from the Flashing Rack (Site 18) was observed at this site in November 1994. Debris observed at the site includes railroad ties, propellant drum lids and lid bands, propellant drums, asphalt materials, iron pipe, metal siding, 55-gallon drums, concrete, brick, gravel, and miscellaneous scrap metal. The flat area on top of the bluff is tree-covered on the north and south ends and grass-covered elsewhere. The steep slope is tree-covered with bedrock exposures. A ridge exists along the steep slope, below which the slope drops approximately 100 feet to the floodplain below. A portion of the flat area drains toward a ditch to the south. The north end of the site is drained by a ditch that runs nearly straight downslope. Other surface water drains downslope. Groundwater was not encountered in any soil boring.

Elevated levels of SVOCs, pesticides, metals, and TPH were detected in soil and sediment. A RFI was completed in FY02. The final CMS, 10% design and 60% design were completed in FY04.

STATUS

RRSE RATING: High
CONTAMINANTS:
VOCs, SVOCs, Metals, POL, Propellants, Explosives
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE:
CMI
FUTURE IRP PHASE: RC

PROPOSED PLAN

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, 60 due to their proximity within the Burning Ground Area. The primary option is debris removal and off-site disposal.

INAAP-54
P&E AREA FLUME

SITE DESCRIPTION

The P&E Area Flume carried process waste water, sewage effluent and stormwater runoff from the P&E Area to a discharge point approximately 200 to 300 feet upgradient of the Process Waste Settling Basin (INAAP-6). It is primarily a wooden structure that is 4 feet by 6 feet wide with one section that consists of a rectangular concrete culvert. Parts of the flume are in the ground and others are elevated as much as 5 feet above ground. The flume parallels the streambed of Jenny Lind Run. The P&E Area Flume is approximately two miles long and in various stages of disrepair. Propellant grains were observed at multiple locations along the entire run of the flume. Surface water was observed flowing from caves and springs and into caves, swallets, or sinkholes at several locations within the streambed of Jenny Lind Run and along the flume. Flow in the flume most likely has entered the subsurface directly through these karst features. Groundwater was not observed in the soil boring and was observed in only one shallow soil sample. This site is near the Gray Bat habitat area.

STATUS

RRSE RATING: High
CONTAMINANTS:
VOCs, SVOCs, Metals, Propellants, Nitrates, Nitrocellulose
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE:
CMI, LTM
FUTURE IRP PHASE: LTM

Low levels of VOCs and pesticides and elevated levels of SVOCs, lead and DNT were detected in soils. Final RFI and CMS were completed in FY02. The 60% design was completed in FY03. The mercury-contaminated soil (~300 tons total) was removed from around the pressure gauges (INAAP-63) and from within Section I of the P&E Flume in FY03. The CMI phase was awarded in FY03 and field work was completed in FY04.

PROPOSED PLAN

Three years of sediment/surface water sampling is planned. Awaiting IDEM approval for closure.

INAAP-56
POWDER INCINERATOR

SITE DESCRIPTION

The former Powder Incinerator was used to burn nitrocellulose and propellant. The foundation was a 12-foot by 12-foot concrete cauldron reportedly resting on exposed bedrock. The building structure has been demolished, but the foundation is still present. Groundwater was not observed in any soil borings.

The Phase I RI at Site 56 included the completion of two soil borings and collection and analysis of eight surface and subsurface soil samples. Chemical analysis included VOCs, SVOCs, metals, TPH, explosives and nitrate/nitrite.

Low levels of VOCs, SVOCs and lead were detected in the soil. A RFI was completed in FY02. The final CMS, 10% design and 60% design were completed in FY04.

STATUS

RRSE RATING: Low
CONTAMINANTS:
VOCs, SVOCs, Metals, POL, Propellants, Explosives
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE:
CMI
FUTURE IRP PHASE: RC

PROPOSED PLAN

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, 60 due to their proximity within the Burning Ground Area. The primary option is to cover in place (~12 acres total). Soil removal with disposal off-site will be required.

INAAP-59
RAVINE DUMPING AREA

SITE DESCRIPTION

The Ravine Dumping Area is an irregular-shaped area approximately 500 feet by 1,000 feet. Residues from the burning area were reportedly disposed of here during the 1960s and are visually evident at the site. The topography of most of the site is relatively flat and covered with grass. A ravine is present on the west side. At the base of the ravine is a stream that drains storm water runoff from the area. Local surficial geology within the plateau area consists of 0.8 to 2.1 feet of silty clay fill with trace amounts of ash and rubble underlaid by residual clay and silty clay. Bedrock is exposed at several locations and was encountered in every boring from depths of 0.8 to 4.3 feet bgs. Sediment samples collected along the streambed consisted of alluvial silty sand with trace gravel. Groundwater was not observed in any borings.

Low levels of VOCs and pesticides and elevated levels of SVOCs, TPH, DNT, arsenic and lead were detected in the soil. A RFI was completed in FY02. The final CMS, 10% design and 60% design were completed in FY04.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Pesticides, POL, PCB, Propellants, Explosives, Nitrocellulose
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI. CMS, CMD
CURRENT IRP PHASE:
CMI
FUTURE IRP PHASE: RC

PROPOSED PLAN

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, 60 due to their proximity within the Burning Ground Area. The primary option is to cover in place (~12 acres total) and hot spot and debris removal and off-site disposal.

INAAP-60
BURNING GROUND LANDFILL

SITE DESCRIPTION

The Burning Ground was listed in INAAP's RCRA Part B Permit and has been closed. It was a graveled area about 200 x 300 feet. The Burning Ground was used starting in 1941 to burn off-specification or waste propellant up to a rate of 480,000 pounds per year. The Burning Ground Landfill is believed to occupy several acres. The landfill was active in the early to mid 1940s and 1950s. Materials reportedly disposed of at this landfill include organic and chlorinated organic solvents. The landfill is unlined and soil covered. Surface debris is not visible.

Elevated levels of VOCs, SVOCs, and lead and low levels of DNT were detected in the soil. A RFI was completed in FY02. The final CMS, 10% design and 60% design were completed in FY04.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Propellants, Explosives, Nitrates, PCBs
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMS, CMD
CURRENT IRP PHASE:
CMI
FUTURE IRP PHASE:
LTM

PROPOSED PLAN

This site is grouped with INAAP-26, 27, 28, 34, 46, 56, 59, 60 due to their proximity within the Burning Ground Area. The primary option is to cover in place (~12 acres total).

INAAP-63
P&E AREA

SITE DESCRIPTION

The P&E Manufacturing Area (1,500 acres) was a single-based propellant manufacturing facility that was operated intermittently from 1941 until 1970. The major process areas included two nitric acid manufacturing areas, two nitrocellulose manufacturing and purification areas, and two propellant manufacturing and finishing areas. Major support areas include an aniline manufacturing area, two coal burning power plants, approximately 450 ASTs, and an extensive railroad system. Specific sites within the P&E Area include INAAP-4, 5, 9, 19, 54, 62 and NFA sites 7, 10, 16, 20, 23, 35, 36, 53, 70, 72, 81. INAAP-32 is addressed under INAAP-63. The topography of most of the area is relatively flat, ranging from 600 feet above MSL to 620 feet above MSL. The P&E Area lies within the Jenny Lind drainage basin. A valley is located in the southern portion of the site with elevations ranging from 520 to 600 feet above MSL. The Jenny Lind Flume is located within this valley. The majority of stormwater runoff drains through ditches and culverts or sheet flows into Jenny Lind Run drainage basin.

STATUS

RRSE RATING: High
CONTAMINANTS:
VOCs, SVOCs, Metals, Pesticides, POL, PCB, Propellants
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI
CURRENT IRP PHASE:
RFI,CMD
FUTURE IRP PHASE:
CMI

Low levels of VOCs, pesticides, PCBs and TPH and elevated levels of BAP, DNT, nitrocellulose, mercury, arsenic, and chromium were detected in shallow soil. A Preliminary Characterization Study and RFI field screening activities were completed in FY01. The Phase II RFI was started in FY02 and fieldwork was completed in FY03. The mercury-contaminated soil (~300 tons total) was removed from around the pressure gauges and from within Section I of the P&E Flume (INAAP-54) in FY03. A comprehensive draft Supplemental Phase II RFI report on all IRP activities to date was completed in FY04.

PROPOSED PLAN

Finalize the RFI and complete the CMS. Soil removal and erosion control may be needed. Groundwater is being addressed under INAAP-90.

INAAP-69
CONSTRUCTION DEBRIS LANDFILLS (5)

SITE DESCRIPTION

Construction Debris Landfill #1 is located northeast of Salem Road and 4th Street. This landfill reportedly consisted predominantly of construction debris and building rubble. No dates of operation are known for any of the construction debris landfills. No further action was recommended at this site because nearly all the debris was crushed limestone. There were no visual signs of contamination, no documented releases, and the debris appears to rest directly on bedrock.

Construction Debris Landfill #2 is located in the northern portion of the LAP Area, where Avenue "F", 5th Street and Utica Road intersect. No chemicals exceeded 50 percent of the Region IX PRGs.

Construction Debris Landfill #3 is located in the northern portion of the LAP Area, approximately 1,500 feet northeast of Construction Debris Landfill 69-2. SVOCs were detected at low levels. Estimated risk meets prescribed EPA exposure levels.

Construction Debris Landfill #4 is located in the southwest part of the Plant along the South Patrol Road. SVOCs, metals, and TPH were detected in the soil.

Construction Debris Landfill #5 is located just north of the intersection of Oak Street and Maple Avenue. Several small seeps of water were observed along bedrock outcrops as the result of rains at the time of the sampling event. No Further Action has been approved for Landfills 69-1, 69-2, and 69-3.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Pesticides, POL, PCB, Propellants, Explosives, Nitrocellulose, Nitrates
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE: RC

PROPOSED PLAN

Awaiting IDEM approval for NFA for 69-4 and 69-5.

INAAP-90
INSTALLATION GROUNDWATER

SITE DESCRIPTION

INAAP-90 was established (opened in AEDB-R in 2000) to evaluate the potential for widely distributed groundwater contamination related to INAAP, potentially resulting from multipoint or nonpoint-source groundwater pollution. INAAP has karst geology that complicates the investigation of surface/groundwater.

The site originally consisted of four temporary groundwater monitoring locations established during the INAAP Stratigraphic Confirmation Coring program in 1996. No groundwater analytical data existed for the majority of INAAP. No evidence existed of off-post groundwater impact.

A draft facility-wide hydrogeological model was completed in FY01. Monitoring wells were installed along the eastern boundaries (along the Ohio River) in FY01. The installation of monitoring wells along the northern, western, and southern property boundaries was completed in FY02. Springs both on- and off-post were surveyed and sampled in addition to sampling monitoring wells in FY02 and FY03.

STATUS

RRSE RATING: High
CONTAMINANTS: VOCs, SVOCs, Metals, Propellants Explosives, Nitrates
MEDIA OF CONCERN: Groundwater
COMPLETED IRP PHASE: PA
CURRENT IRP PHASE: RFI
FUTURE IRP PHASE: RFI

There are now a total of 19 installation-wide monitoring wells and ~50 springs (20 off-post) sampled. The data obtained thus far indicated low levels of contamination that do not require further action.

PROPOSED PLAN

Groundwater and spring monitoring is planned. Well abandonment is planned for the future.

FY2005

Indiana Army Ammunition Plant

RESPONSE COMPLETE

AEDB-R SITES

INAAP-02A, INAAP-02B
NEW LANDFILL (SANITARY), NEW LANDFILL (RCRA)

SITE DESCRIPTION

The New Landfill occupies about 45 acres. This landfill has 2 parts: 2A is the Solid Waste Landfill, and 2B is the Hazardous waste cells and fill within the Solid Waste Landfill. The Solid Waste Area was used until 1993. The Hazardous Waste Area was used until 1982.

The landfill originally received industrial and household waste from facility operations containing general refuse, sewage treatment sludge, dispensary wastes, and construction debris. Wastes were buried in the northern and western parts of the landfill that were later determined to be hazardous, and included lead-lined bags, cadmium paint shavings, propellant contaminated wastes and asbestos debris. The landfill is unlined and soil covered. Surface debris is not visible. Approximately 28,000 cubic yards of wastes were deposited in the landfill each year.

Low levels of several VOCs, SVOCs, pesticides, PCBs and metals and elevated levels of DDT and TPH were found in the soil. VOCs were also detected in the groundwater. Both landfills have received closure from IDEM. LTM is being funded with non-ER,A funds for both landfills.

STATUS

RRSE RATING: High (INAAP-2A)
NE (INAAP-2B) (not ER,A eligible)
CONTAMINANTS:
VOCs, SVOCs, Metals, Pesticides
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
RC - 1987

INAAP-03
NORTH ASH SETTLING BASIN

SITE DESCRIPTION

The North Ash Settling Basin covers approximately 4.6 acres and intermittently received sluiced ash from the north coal-fired power plant from 1941 to 1957. It may have also received P&E Area wastewater from the production of nitrobenzene, aniline, diphenylamine, and dimethylaniline. The basin is located in a topographic low within the Fourteen Mile Creek drainage basin. The ground surface surrounding the basin slopes toward the basin. An earthen dike exists at the north-northeast corner of the basin. A small stream enters on the southern edge, flows through the basin, exits on the northern edge through standpipes, combines with a spring discharge, and enters Lick Creek. Perched groundwater was encountered in five of the eight deeper sediment sampling locations at depths of 0.3 to 0.5 foot bgs.

Low levels of VOCs, SVOCs and metals and elevated levels of arsenic, chromium and BAP were detected in the soil. Sampling in FY00 delineated the contamination from the basin. In FY02, a final RFI including a human health and ecological risk assessment was completed and determined that there was no significant risk to human health and the environment. This site has been closed per IDEM (pending Public Comment).

STATUS

RRSE RATING: High
CONTAMINANTS:
VOCs, SVOCs, Metals
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
RC - 2002

INAAP-07
BUILDING 714-18 (RCRA 90-DAY STORAGE)

SITE DESCRIPTION

Building 714-18 is an open-sided storage shed approximately 50 feet by 200 feet. About one-third of the shed contains a curbed concrete area surrounded by a fence that was used for 90-day storage of hazardous waste. Groundwater was not observed in any borings at depths up to 10 feet bgs. Due to tenant use, this building is no longer being used for storage of hazardous waste.Only low levels of contaminants detected.

Low levels of VOCs, SVOCs pesticides and PCBs were detected in soil. None of the chemicals detected in soil samples exceeded EPA Region IX PRGs.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, PCBs

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:

RC - 1997

INAAP-08
BUILDING 229-1 (SCRAP POWDER 90-DAY)

SITE DESCRIPTION

Building 229-1 is a wood-framed building with transite siding, wood flooring, and five bay doors. The building is approximately 30 feet by 108 feet. Since 1980, the building has been used for 90-day storage of scrap and waste propellant. Prior to 1980, it was used for propellant storage

No chemicals were detected. Therefore, no screening-level risk evaluation was completed.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Propellant, Explosives, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:

RC - 1997

INAAP-09
BUILDING 722-23 (PCB STORAGE)

SITE DESCRIPTION

Building 722-23, PCB Storage Building, is an approximately 1,600 square foot wood-framed building.

The location of concern with respect to this site is the drainage area east of the building.

A PCB storage area is located within a curbed, concrete pad. A floor drain located outside of the curbed area, but within the building, drains into an underground clay pipe that discharges into a surface outlet more than 100 feet southeast of the site. The building has been used to store various PCB-containing materials and equipment. In addition, the building served as the RCRA <90-day storage facility. Groundwater was encountered at 5 feet bgs in the boring near the surface outlet.

Low levels of VOCs, SVOCs, pesticides and PCBs were detected in the soil around the building. Elevated levels of arsenic and chromium were detected in the surface water outlet. The pre-design investigation was completed in FY03. NFA was approved by IDEM

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Pesticides, PCBs
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, CMD, CMI
CURRENT IRP PHASE:
RC - 2004

INAAP-10
P&E AREA SEWAGE TREATMENT PLANT

SITE DESCRIPTION

The P&E Area Sewage Treatment Plant is situated on about 2 acres and has been used since 1941 to treat sewage from the P&E Area. Treatment processes include primary settling, trickling filter, final clarifier, digesters, and chlorination. The plant is currently operational, with effluent discharging to the P&E Flume (Site 54) under a NPDES permit. Waste sludge is placed in drying beds prior to disposal. The sludge drying beds consist of a concrete retaining wall and filter media. A study of the INAAP sewer systems in 1994 indicated cross connections between the sanitary, storm, and industrial sewer systems. Therefore, it is possible that industrial wastewater was processed at the P&E Sewage Treatment Plant. The sludge drying beds consist of sand underlaid by gravel and stiff clay. Bedrock was encountered in all borings between 5 and 7.5 feet bgs. Shallow soils consisted of silty clay with trace amounts of sand. Groundwater was not encountered in any of the borings or shallow soil samples. Low levels of VOCs, SVOCs and metals were detected in the soil. Elevated levels of arsenic and SVOCs were detected in the north sludge drying bed. No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

Future work, if any, will be funded under the P & E Area (INAAP-63).

STATUS

RRSE RATING: NE

CONTAMINANTS: VOCs, SVOCs, Metals, Propellant, Explosives, Nitrocellulose, Nitrates

MEDIA OF CONCERN: Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE: PA/SI, RFI

CURRENT IRP PHASE: RC - 1997

INAAP-11
RIVER RIDGE NORTH SEWAGE TREATMENT PLANT

SITE DESCRIPTION

Sewage from 30 River Ridge Housing units was treated at the River Ridge North Sewage Treatment Plant (Facility 6654). Gravel covered the ground within a shielded chain-link fence that encompassed the entire facility. The plant was equipped with a gasoline-powered emergency generator (Building 6655) that was supplied by a 250-gallon aboveground storage tank. The treatment plant is a prefabricated steel package unit with a 20,000-gallon-per-day capacity. The storage tank was addressed under Site 83.

This sewage treatment facility was constructed in 1973 and was operational through 1994. Treatment procedures included an activated sludge tank, extended aeration, and final effluent chlorination. Effluent from the plant was discharged directly to the Ohio River. Although the plant is currently inactive, it remains listed on the NPDES permit. When the plant was in use, waste sludges accumulated in a holding tank before being removed by a contractor.

No further action was recommended because historical records reviewed did not indicate any releases occurred and no visable signs indicating hazardous materials or waste were used were observed. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS: Explosives, Metals, Nitrates

MEDIA F CONCERN: Groundwater, Soil, Sediment, Surface Water

COMPLETED IRP PHASE: PA/SI, RFI

CURRENT IRP PHASE: RC - 1997

INAAP-12
RIVER RIDGE SOUTH SEWAGE TREATMENT PLANT

SITE DESCRIPTION

Sewage from 17 River Ridge Housing units and the River Ridge Housing Club House (Building 2642) was treated at the River Ridge South Sewage Treatment Plant (Facility 6653). Gravel covered the ground within a shielded chain-link fence that encompassed the entire facility. The plant was equipped with a gasoline-powered emergency generator (Building 6656) that was supplied by a 250-gallon aboveground storage tank. This treatment plant is a prefabricated steel package unit with a 12,000 gallon-per-day capacity. The storage tank was addressed under Site 83.

This sewage treatment facility was constructed in 1973 and was operational through 1994. Treatment procedures included an activated sludge tank, extended aeration, and final effluent chlorination. Effluent from the plant was discharged directly to the Ohio River. Although the plant is currently inactive, it remains listed on the NPDES permit. When the plant was in use, waste sludges accumulated in a holding tank before being removed by a subcontractor.

No further action was recommended because historical records reviewed did not indicate any releases occurred and no visual signs indicating hazardous materials or waste were used were observed. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-13
LAP AREA SEWAGE TREATMENT PLANT

SITE DESCRIPTION

The LAP Area Sewage Treatment Plant is situated on about 2 acres and has been used since 1942 to treat sewage from the LAP and Inert areas. Treatment processes included primary and intermediate settling, aeration, trickling filter, final clarifier, and chlorination. Effluent discharges to the Ohio River under a NPDES permit. Waste sludge is placed in drying beds prior to disposal. The sludge drying beds consist of a concrete retaining wall, filter media, and a leachate collection system. Leachate discharges to the Central Branch of Lentzier Creek. Groundwater was not encountered in any of the completed borings.

Low levels of VOCs and SVOCs and elevated levels of arsenic were detected in the soil. Estimated risks meet EPA acceptable levels. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Propellant, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater, Soil, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-14
BLACK POWDER SANITARY STP

SITE DESCRIPTION

Sewage from the Black Powder Plant was treated at the Black Powder Sewage Treatment Plant (Building 836). This treatment system included a rapid mix chamber, flocculation chamber, settling chamber, filter sludge holding tank, final aeration, and chlorination. Effluent was discharged to Fourteen Mile Creek. This facility was constructed in 1977 and has had only minimal use since the Black Powder Plant has been essentially nonoperational.

No further action recommended because the plant had minimal use, historical records did not indicate any releases occurred, and visual signs indicating hazardous materials or waste were used were not observed.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Nitrates

MEDIA OF CONCERN:
Groundwater, Soil, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-15
BLACK POWDER INDUSTRIAL WTP

SITE DESCRIPTION

Industrial wastewater arrived at the treatment plant through a series of open, in-ground sewers and entered a retention pond. Power can be provided to the plant through a fuel oil-powered generator. Fuel is supplied to the generator by an aboveground storage tank that was addressed under Site 83. The facility was constructed in 1977 and had very little use since the Black Powder Plant was essentially nonoperational. The treatment system consisted basically of cation and anion exchange units in series. After a process of filtering, anion exchange, and cation exchange, the demineralized water was pumped to either an outside drain or to a well at the retention pond where it was held for reuse. Potassium and nitrogen were recovered from the treatment resins and fed into a product tank. Nitric acid or potassium hydroxide were added to the product tank to neutralize the solution as required. Recovery of potassium nitrate from the effluent wastewater from the Black Powder Plant was accomplished by a “Chem-Seps Self Contained Continuous Countercurrent Ion Exchange System”, housed in Building 823.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Metals, VOCs, SVOCs, Nitrates, Black Powder

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

No further action recommended because the plant had minimal use, historical records did not indicate any releases occurred, and visual signs indicating hazardous materials or waste were used were not observed.

INAAP-16
P&E AREA NEUTRALIZATION FACILITY

SITE DESCRIPTION

The P&E Neutralization Facility consists of a pump house and three concrete silos that are located in the P&E area. The silos are approximately 49 feet high with 20-foot inside diameters and are spaced about 15 feet apart. Each silo has a small room at its base, with pipelines that carry process wastewater and pass through the rooms. Lime stored in the silos was injected into the process wastewater lines to neutralize the wastewaters, which were then discharged to the Process Waste Settling Basin (Site 6) via the P&E Flume (Site 54). The pump house pumped process wastewater through the pipes that pass through the silos. The site was active from 1940 to 1945, 1952 to 1954, and again from 1968 to 1972 (AEHA 1987). No further action was recommended by the Army based on process knowledge.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Propellant, Explosives, Nitrocellulose, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-17
BURNING GROUND

SITE DESCRIPTION

The Burning Ground was listed in INAAP's RCRA Part B Permit and has been closed. The Burning Ground consisted of a graveled area approximately 200 x 300 feet. It was reportedly located on top of the Burning Ground Landfill. Use of the Burning Ground started in 1941 to burn off-specification or waste propellant up to a rate of 480,000 pounds per year. The Burning Ground Landfill occupied several acres. The landfill was active in the early to mid 1940s and 1950s. Materials reportedly disposed of at this landfill included organic and chlorinated organic solvents.

The landfill was unlined and soil covered. Elevated levels of SVOCs, explosives and lead were detected on the eastern side of the Burning Ground and east-southeast within what appeared to be part of the landfill. Estimated risks exceeded EPA acceptable levels and wastes from the landfill were excavated and removed. The landfill was granted a clean closure by USEPA.

STATUS

RRSE RATING: Medium

CONTAMINANTS:
VOCs, SVOCs, Metals, Propellants, Explosives, Nitrocellulose

MEDIA OF CONCERN:
Groundwater, Soil, Sediment

COMPLETED IRP PHASE:
PA/SI, RI/FS

CURRENT IRP PHASE:
RC - 1998

INAAP-18
FLASHING RACK

SITE DESCRIPTION

The Flashing Rack consists of a fenced area approximately 480 feet by 110 feet. A gravel border about 7 to 10 feet wide is outside and around the perimeter of the fence. The gravel border is surrounded by a buffer zone of bare soil. The site has been used since 1940 and is active today. Empty propellant containers and other explosive-contaminated items are burned within the fence in the north portion of the site. Flashing is completed by combining items to be burned with scrap lumber, straw bales, and fuel oil. Prior to 1985, the quantity of material burned was not documented. Since 1985, the site has received about 200,000 pounds per year. Non-hazardous and hazardous ash is disposed of off-site at approved facilities. Metal scrap is salvaged. Groundwater was not observed in any boring to depths up to 10 feet bgs.

Low levels of VOCs, SVOCs and metals and elevated levels of lead and TPH were detected in soils. Estimated risks meet EPA acceptable levels. This site is active and therefore not eligible for IRP funds.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, metals, POL, PCB, Propellants, Explosives, Nitrocellulose, Nitrates
MEDIA OF CONCERN:
Groundwater, Soil, Sediment
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
RC - 1996

INAAP-20
CAUSTIC CLEANING FACILITY

SITE DESCRIPTION

The Caustic Cleaning Facility consists of a caustic tank cleaning shed, maintenance building, and outdoor caustic dip tanks. The facility operated from 1941 until 1972, when it was deactivated. Metal equipment was cleaned, neutralized, and/or degreased at this facility. Groundwater was not observed in any borings at depths up to 15 feet bgs.

Low levels of VOCs, SVOCs and arsenic were detected in soils. Estimated risks meet EPA acceptable levels.

No further action necesary. Site noted Response Complete in AEDB-R in July 1997.

Future work, if any, will be funded under the P & E Area (INAAP-63).

STATUS

RRSE RATING: NE
CONTAMINANTS:
VOCs, SVOCs, Metals
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
RC - 1997

INAAP-21
BUILDING 229-156 (LEAD BAG STORAGE)

SITE DESCRIPTION

Building 229-156 is a wood framed building with transite siding, wood flooring, and three bay doors. The building is approximately 30 feet by 60 feet. Since 1980 it has been used for the 90-day storage of scrap lead-lined propellant bags. Prior to 1980 it was used as a propellant and explosives shiphouse (see Site 65).

No detected metals were above background levels. Therefore, no screening level risk evaluation was completed.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Metals, Propellants, Explosives

MEDIA OF CONCERN:

Soil, Groundwater, Sediment, Surface water

COMPLETED IRP PHASE:

PA/SI, RFI

CURRENT IRP PHASE:

RC - 1997

INAAP-22
SUSPECTED PROPELLANT BURIAL AREA

SITE DESCRIPTION

The existence and exact location of the Suspected Propellant Burial Site is unknown. Propellant was reportedly buried at the site. The area investigated is approximately 1,200 feet by 1,200 feet with scattered construction debris, drums, and lids. The EM geophysical survey did not identify any large buried metal objects.

Low levels of a few SVOCs and metals were detected in soils.

Estimated risks meet EPA acceptable levels. Response Complete.

STATUS

RRSE RATING: NE

CONTAMINANTS:

SVOCs, Metals

MEDIA OF CONCERN:

Soil, Groundwater, Sediment, Surface water

COMPLETED IRP PHASE:

PA/SI, RFI

CURRENT IRP PHASE:

RC - 1997

INAAP-23
P&E SINKHOLE

SITE DESCRIPTION

The P&E Area Sinkhole is about 40 feet by 80 feet and 25 feet deep. The sinkhole is surrounded by a wooden fence. The topography around the site gently slopes towards the sinkhole. Within the sinkhole the ground surface slopes steeply toward the center. The area west of the sinkhole drains through a wooden flume to the sinkhole. There is no evidence of industrial wastewater disposal at this site.

Low levels of VOCs, SVOCs and metals were detected in the soil.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

Future work, if any, will be funded under the P & E Area (INAAP-63).

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOC, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-24
SUSPECTED PROPELLANT BURIAL (P-LOOP)

SITE DESCRIPTION

The Suspected Propellant Burial area east of P-Loop covers about one acre and consists of waste materials dumped in a low area. The site is currently level, overgrown with grass and weeds, and surrounded by trees. The southern edge of the burial area is about 10 to 12 feet above natural ground surface. Various refuse and construction debris is visible at the site. Construction debris consisting of asphalt, concrete, bricks, gravel and wood ties, was observed on the ground surface and at depths of up to 8 feet bgs over the majority of the burial area. Groundwater was encountered at depths ranging from 6.5 to 12.3 feet bgs.

Low levels of VOCs and metals and elevated levels of SVOCs were detected in soils. Estimated risks meet EPA acceptable levels.

The RFI was completed in FY02.

STATUS

RRSE RATING: Medium

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 2003

INAAP-29
BUILDING 228-1 SEPTIC TANK

SITE DESCRIPTION

The Septic Tank for Building 228-1 is a 1,000-gallon concrete tank where sanitary and other wastes were discharged. A drain field associated with the septic tank is located to the south. Groundwater was not observed in any boring to depths of 5.8 feet bgs.

Low levels of VOCs, SVOCs and metals were detected in soils. Estimated risks meet EPA acceptable levels.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Propellant, Explosives, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater,Sedument, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-30
BUILDING 4951 SEPTIC TANK

SITE DESCRIPTION

The Septic Tank for Building 4951 is located about 130 feet northeast of the building. A drain field associated with the septic tank is located downslope of the septic tank further to the northeast. Building 4951 is a canteen and boiler house. The septic tank reportedly received only sanitary wastes and boiler washdown water. Groundwater was not observed in any boring to depths of 15 feet bgs.

No chemicals were detected above background levels, and reporting limits were below EPA Region IX PRGs. Therefore, no screening-level risk evaluation was completed.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOC, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-31
BUILDING 2662 SEPTIC TANK

SITE DESCRIPTION

The Saw Shed Septic Tank is located about 50 feet west-southwest of Building 2662. Wood pallets were and are still constructed in Building 2662. A drain field associated with the septic tank is located north and southwest of the septic tank. A UST and AST are located at the site and were used to store fuel oil. The AST is currently being used to store fuel oil. The septic tank reportedly received only sanitary wastes.

Low levels of SVOCs and metals were detected in soils. Estimated risks meet EPA acceptable levels.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Propellant, Explosives, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater,Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-32
BUILDING 706-3 (LABORATORY)

SITE DESCRIPTION

Building 706-3 Laboratory is a 9,286-square-foot, two-story building with a septic system. The septic system consists of a 500-gallon septic tank and two 150-foot-long drain tiles. Mercury contamination was previously determined at this site and mercury sulfide was observed within the building. Soils were removed from the basement. Groundwater was observed in the two borings closest to the building at depths of 4.8 and 8.0 feet bgs. Groundwater continues to infiltrate the basement of the building.

Lead, mercury, silver, VOCs and SVOCs were detected in soils. Estimated risks meet EPA acceptable levels. Future work will be funded under the P & E Area (INAAP-63).

STATUS

RRSE RATING: Medium

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RC - 1992

INAAP-33
FARMHOUSE BASEMENT BURIAL PIT

SITE DESCRIPTION

The Farmhouse Basement Burial Pit is a basement from an abandoned farmhouse reportedly used as a burial pit. The foundation of the farmhouse is visible. Waste materials reportedly disposed of in the pit were polyurethane tube ends, dye house/laundry sump sludge, and unidentified miscellaneous debris, ash, and chemicals. Gravel, plastic, cement, and brick were observed in the fill. Bedrock was encountered in both soil borings. Groundwater was not observed in either soil boring to depths of 11.2 feet bgs.

Low levels of VOCs, SVOCs, lead and mercury were detected.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-35
BUILDING 706-1 (LABORATORY)

SITE DESCRIPTION

Building 706-1, the main P&E Laboratory, is a two-story, brick, T-shaped building occupying about 20,050 square feet. Three auxiliary buildings are located at this site. The building was used as a Quality Assurance laboratory for the P&E and Acid Production Areas from 1941 until 1974, when it was deactivated. Mercury contamination was removed from the building and from soils in the crawl space below the building in 1995.

Low levels of VOCs and elevated levels of SVOCs, mercury, nickel and DNT were detected in sediment. Estimated risks exceed EPA acceptable levels

Future work, if any, will be funded under the P & E Area (INAAP-63).

STATUS

RRSE RATING: Low

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1995

INAAP-36
BUILDING 228-1 (BALLISTICS LABORATORY)

SITE DESCRIPTION

Building 228-1 Ballistics Lab is a J-shaped building occupying about 23,120 square feet. A firing range is located on the northeast side of the building. The lab was used intermittently to test small arms ammunition and was used for physical and chemical testing of production items. Water and wastewater testing were also performed here. The site is also used as a lab by a tenant. Wastewater is discharged to a septic system (Site 29). Groundwater was not observed in any boring to a depth of 10 feet bgs.

Low levels of VOCs and metals and elevated levels of BAP were detected in the soil. No further action is planned for this site.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Propellants, Explosives, Nitrocellulose
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
RC - 1999

INAAP-37
BUILDING 1503 SPRAY PAINT BOOTH

SITE DESCRIPTION

The Spray Paint Booth is located in an interior room on the south-central side of Building 1503. The Spray Paint Booth is a DeVilbiss Turboclean spray booth. The booth is 65 square feet and has a metal top and side walls (ASI 1994). It sits directly on the building's concrete floor. There are no floor drains in the booth and no secondary containment features such as curbs or dikes. There are no visible signs of cracks in the concrete floor or evidence of paint spills. The booth has an outdoor air vent. It used a water-bath type filtering system. The booth has been in operation intermittently since 1940 and was used primarily for sign painting (ASI 1994). The booth is currently not in operation.

A review of historical records and a site reconnaissance indicated there was no generation or release of hazardous waste. Therefore, no further action was recommended in the PA report.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE
CONTAMINANTS:
VOCs, SVOCs, Metals
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
RC - 1997

INAAP-38
INERT AREA CAN BURIAL

SITE DESCRIPTION

Building 706-1, the main P&E Laboratory, is a two-story, brick, T-shaped building occupying about 20,050 square feet. Three auxiliary buildings are located at this site. The building was used as a Quality Assurance laboratory for the P&E and Acid Production Areas from 1941 until 1974, when it was deactivated. Mercury contamination was removed from the building and from soils in the crawl space below the building in 1995.

Low levels of VOCs and elevated levels of SVOCs, mercury, nickel and DNT were detected in sediment. Estimated risks exceed EPA acceptable levels

Future work, if any, will be funded under the P & E Area (INAAP-63).

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-39
PLANT SANITARY SEWER SYSTEMS (7)

SITE DESCRIPTION

Sewage was carried to each of the five INAAP sewage treatment plants through independent sanitary sewer systems. Major sanitary sewer systems were located in the P&E area, LAP area, and the Black Powder area. Two smaller sanitary sewer systems were located in the River Ridge Housing area. Approximately 19,000 linear feet of sanitary sewer is present in the P&E Area beginning at Building 703 and terminating at the P&E Sewage Treatment Plant (Building 607).

The sewer system was designed for an average flow of 400,000 gallons per day. Piping was mostly clay-tile, but concrete, iron, and plastic were also used. The P&E Sanitary Sewer System was constructed in the early 1940s. Materials used in the P&E area could have potentially entered the Sanitary Sewer System. No documented spills or releases impacting this system were found during the records review. The results from the 1994 sanitary sewer inspection indicate there is some potential for infiltration and inflow in this sewer system and that the P&E sanitary, stormwater and industrial waste sewer systems are interconnected (Goodman 1994).

Future work, if any, will be funded under the P&E Area (INAAP-63).

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Explosives, Propellant, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-40
MOTOR POOL (BLDGS 2551, 2551A, 2561)

SITE DESCRIPTION

This cinder-block wall building is approximately 22,500 square feet in size and is surrounded by asphalt pavement. The building is lined with service bays along the northeast and southwest sides of the building and is divided into three different service areas. The main part of the building contains offices, a fork lift parking area, and service bays that are used for light truck and automobile maintenance and repair. A six-bay portion of the building (center room) is used for the repair and maintenance of large trucks and heavy equipment. A former spray paint booth is located at the southeast end of the building and is separate from the rest of the building. The Automotive Garage has operated intermittently from 1940 to the present (ASI 1994). The Automotive Garage has been and currently is used for general maintenance and mechanical repair of motor vehicles. Perched groundwater was encountered at about 6.3 feet bgs at one boring. Low levels of VOCS, SVOCs and TPH were detected in soil. Estimated risks meet EPA-acceptable levels

No further action necessary. Site noted Response Complete in AEDB-R in September 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-41
PART CLEANER SYSTEMS

SITE DESCRIPTION

Parts Cleaner Systems have been used at the Motor Pool Automotive Garage (Site 40) and possibly at the following buildings: 2561, 1001, 718, 101-4, 1503, 717, and 716-2. Two parts cleaner systems were observed at the Motor Pool Automotive Garage during the January 1995 site reconnaissance. These systems consisted of a portable tank of degreasing fluid that was covered with a hinged lid. The tanks showed no visible signs of damage or leakage and appeared to be in good condition. The Parts Cleaner Systems were used to degrease parts during repair and maintenance of automotive and locomotive parts and in the case of the Spray Paint Booth, possibly to degrease objects prior to painting. Degreasing fluids are exchanged by a contractor (Safety-Kleen Corporation, Elgin, Illinois) on a regular basis and are recycled by the contractor.

A review of historical records and a site reconnaissance did not indicate a possible release had occurred. Therefore, no further action was recommended. Site noted Response Complete in AEDB-R.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, POLs

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-42
BUILDING 2535 AG SOLUTION STORAGE AREA

SITE DESCRIPTION

The site consists of a steel-sided building that was used as a change house for Load Lines 1 and 2. The building is approximately 150 feet long and 60 feet wide. An AST containing heating fuel is located near the southeast corner of the building. The AST has a spill containment structure built around it. Part of the building was used to store approximately 250 gallons of a hyposolution containing silver from 1988 to 1992 (ASI 1994). The storage area was about 42 square feet in size. No releases or spills are known to have occurred at this site.

A review of historical records and a site reconnaissance did not indicate a possible release had occurred. Therefore, no further action was recommended. Site noted Response Complete in AEDB-R.

STATUS

RRSE RATING: NE

CONTAMINANTS: Metals

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:

RC - 1997

INAAP-43
BUILDING 2581 ACCUMULATION AREA

SITE DESCRIPTION

Building 2581 is a 60-foot by 34-foot concrete and corrugated metal building located in the 1500 Shops Area. This building was reportedly used for pesticide, herbicide, and sulfuric acid storage until 1984 (ASI 1994). Since then, it has been used as a drum storage area.

Low levels of a few VOCs and SVOCs were detected in the soil. No chemicals detected exceeded EPA Region IX Industrial Soil PRGs.

No further action necessary. Site noted Response Complete in AEDB-R in October 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, POLs
PCBs, Pesticides

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:

RC - 1997

INAAP-44
BUILDING 2525 WHEELABRATOR BAG HOUSES

SITE DESCRIPTION

Building 2525 (INAAP-78) is a wood-framed, corrugated-metal-sided building located in the 1500 Shop Area. The building was used to gritblast paint and rust from used artillery charge cans. Dust from the blasting operation is collected in baghouses located on the south side of the building. The baghouses filter the dust from circulated air. Currently, the dust is removed for disposal by a private contractor. The baghouses are situated outside Building 2525. A 500 gallon tank was identified at the site. Perched water was encountered in the soil borings, most likely attributable to heavy rains prior to the sampling event.

Low levels of SVOCs and metals (primarily arsenic) were detected in soil. Estimated risks meet EPA-acceptable levels.

The tank has been removed and confirmation samples were taken. Minimal soil was excavated and disposed off-site.

STATUS

RRSE RATING:
High
CONTAMINANTS:
SVOCs, Metals
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA/SI, RFI, CMD, CMI
CURRENT IRP PHASE:
RC - 2004

INAAP-47
POWDER PREP CAN BURIAL AREA

SITE DESCRIPTION

The Powder Prep Can Burial Area is reported to have been near the Powder Prep Area. Aerial photographs of the site from 1949 to 1960 show several areas of soil disturbance. The area identified for investigation during site reconnaissance is at the turnout at the end of Keg Opener Road. An earthwork cut and some surficial metal debris were observed at this location. No other areas of disturbance were observed. Reportedly, powder cans were washed out at the Black Powder Preparation Area and buried. It is possible that some buried cans may have contained trace amounts of propellant. Surface cover at the investigated site consists mostly of grasses and weeds. An abrupt break in slope separates the lower elevation in the northwest corner of the site from the generally higher elevations that characterize the rest of the site. Groundwater was not encountered in the trench or soil borings.

Low levels of metals were detected in soils. Estimated risks meet EPA acceptable levels.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Propellant, Explosives, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-48
RAIL SHIPHOUSE CAN STORAGE AREA

SITE DESCRIPTION

The Rail Shiphouse Can Storage Area consists of two areas; both used for the storage of propellant containers. Propellant drum lids and drum rings were observed at the areas during the January 1995 site reconnaissance. Several hundred cans of differing sizes are still stored at this location, mainly on the east side of Building 224-3. Many of these cans still contain minor amounts of propellant with a few containing up to 1/4 pound of propellant each.

No detections above background levels were detected.

No further action necessary. Site noted Response Complete in AEDB-R in October 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Propellant, Explosives, Nitrates, Black Powder

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-49
1500 AREA DISPOSAL PIT

SITE DESCRIPTION

The existence and exact location of the suspected 1500 Area Disposal Pit is unknown. Sewage sludge, waste from grease traps, and absorbent material from oil spill cleanups were reportedly buried at this area in 1973 and 1974. The area investigated was an irregular shaped area approximately 3 to 4 acres in size and south of the 1500 Shops Area. Aerial photos do not indicate any disturbed areas. Some construction debris, empty canisters, and lids were visible in the area investigated. The EM geophysical survey did not identify any large buried metal objects. Groundwater was not observed in either boring to a depth of 14.2 feet bgs.

Low levels of VOCs, SVOCs and metals were detected. Estimated risks meet EPA acceptable levels.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Propellant, POLs, Explosives, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-50
SCREENING BUILDING SUMPS (2)

SITE DESCRIPTION

The Screening Building Sumps are located on the north side of the Powder Prep Area. One sump is located north of Building 4913 (Site 50-1) and the other is located north of Building 4914 (Site 50-2). Screening Buildings 4913 and 4914 were used to screen black powder for uniform grain size. Scrap powder, including spillage, was placed in containers for disposal. Periodically, the screening area floor was washed down with water. Wash water was collected by a floor drain connected to the building sump and drain field. Some powder may have been washed into the drain and reached the sump and drain field. Groundwater was not encountered in any of the borings.

Low levels of metals detected. Estimated risks meet EPA acceptable levels.

No further action necessary. Site noted Response Complete in AEDB-R in October 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Pesticides, POL, Propellant , Nitrocellulose

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-51
RAIL SHIPHOUSE BURIAL AREA

SITE DESCRIPTION

The existence and exact location of the suspected Rail Shiphouse Burial Area is unknown. Propellant containers were reportedly buried at the site. The two areas investigated were approximately 50 feet by 100 feet and 100 feet by 100 feet, respectively. Scattered propellant drums, lids and gaskets are visible in the immediate area. The EM geophysical survey did not identify any large buried metal objects. The two suspected burial areas are partially covered with grass to the southwest and with trees over the rest of the area. Groundwater was not observed in any soil boring or trench.

No chemicals were detected, and reporting limits were below EPA Region IX PRGs. Therefore, no screening-level risk evaluation was completed.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Metals, Pesticide, Propellant, Explosives, Nitrates, Black Powder

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-52
RAIL CAR BURNING AREA

SITE DESCRIPTION

The Rail Car Burning Area is an approximately 300-yard-long, three-track railroad spur where 350 rail cars contaminated with explosive residue reportedly were burned in the early 1960s. The topography of the site is relatively flat with the tracks elevated from the surrounding ground surface by railroad ballast. Most of the track length is bounded on both sides by ditches that drain the area to an intermittent stream and eventually a sinkhole. Groundwater was not observed in any borings.

Low levels of a few VOCs and SVOCs were detected in the soil.

No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-53
BUILDING 104-3 COTTON DRY HOUSE

SITE DESCRIPTION

Building 104-3 is a transite-sided building 128 feet long by 61 feet wide. Cotton was used as a source of cellulose for the production of nitrocellulose explosives. Cotton was dried in the Cotton Dry Houses prior to nitration. As part of the facility maintenance during the 1980s, paint was scraped from the interior of the building. At that time, cadmium was discovered in the paint on the interior walls. Work was stopped and the building was sealed up. Paint dust containing cadmium may have settled on the ground outside doorways or windows, which may have been open during paint scraping activities, or near doorways where scrapings may have been dropped or spilled while being removed from the building and transported to the new landfill. No significant quantity of residual cadmium-bearing paint scrapings are known to exist inside Building 104-3. Perched water with an apparent sheen was encountered at one sampling location.

TPH only slightly exceeded the criteria of 100 mg/kg in one sample, while lead was detected in another sample at 6,530 mg/kg, significantly above the criteria of 1,000 mg/kg. There are no PRGs for lead or TPH, so a cumulative Hazard Index for noncarcinogenic health effects could not be estimated.

No funding is planned under the IRP program, and no further action is planned at this time. Site noted Response Complete in AEDB-R in October 1997.

Future work, if any, will be funded under the P&E Area (INAAP-63).

STATUS

RRSE RATING: NE

CONTAMINANTS:
Metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-55
INERT AREA BURNING GROUND

SITE DESCRIPTION

The Former Inert Area Burning Ground is an irregular shaped, grass covered area approximately 200 feet by 250 feet that was reportedly the location of burning activities prior to the early 1950s. Ash, glass, metal, and gravel were observed at ground surface and in fill material. Groundwater was observed at approximately 9.5 feet bgs near the southern edge of the site.

Low levels of VOCs, SVOCs and metals and elevated levels of DNT were detected in soils. The RFI was completed in FY02. No remediation is expected. The RFI was funded in FY02.

STATUS

RRSE RATING: Medium

CONTAMINANTS:
VOCs, SVOCs, Metals, Explosives, Nitrocellulose, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 2003

INAAP-57
LABORATORY BUILDING 719-1 (LABORATORY)

SITE DESCRIPTION

The Laboratory is a brick facility with an area of 12,563 square feet. It was constructed in 1941. A 1985 building location listing identifies Building 719-1 as a former hospital and employment office. It reportedly was used as a laboratory from 1987 to 1990 (ASI 1994). The area of concern is an 11-foot x 12-foot fenced area that was used to store chemical wastes from laboratory activities. The fenced area consists of a concrete loading dock and pad. It is surrounded by asphalt pavement that drains to a small drainage ditch across the asphalt road to the southwest. The dock and pad are sheltered by a roof, but have no spill containment structure of any kind. The building is connected to the sanitary sewer system. Chemicals reportedly used at this facility include acetone, chloroform, dimethylformamide, ethyl alcohol, ethyl ether, heptane, methanol, methyl chloride, methyl isobutyl ketone, toluene, and possibly heavy metals (ASI 1994). No evidence of a spill exists.

Due to the recent use of this site it is not eligible for IRP funding.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, PCB

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-58
BUILDING 1503 PAINT ACCUMULATION AREA

SITE DESCRIPTION

The Paint Accumulation Area is a paint storage room located next to the Spray Paint Booth (Site 37) inside Building 1503. It is an interior room with no windows and a single-door entrance. The room has a diked concrete floor with no floor drains. According to a 1981 building data list for INAAP Building 1503 was constructed in 1945. The area has been in use since shortly after the building was constructed. The room has been and still is used to store paint for the Spray Paint Booth and the Sign Shop. The Spray Paint Booth is not currently in operation. However, the Sign Shop is still used intermittently. A variety of paint (i.e., small spray cans, 1-gallon and 5-gallon cans) were observed on shelves in the Paint Accumulation Area at the time of the December 1994 site reconnaissance. No solvents, chemicals, or stained areas were observed. The concrete floor was observed to be intact with no cracked or broken up areas. A records search was completed in December 1994. No documented releases of chemical or hazardous wastes were found during the records search.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-61
INERT AREA CAN/DRUM STORAGE AREA

SITE DESCRIPTION

The site includes graveled and grass covered areas, and some areas of bare soil. Numerous drums and containers were stored here during the January 1995 site reconnaissance. Surface drainage empties into both the West and Central Branches of Lentzier Creek. The site has been in use from 1959 to the present (ASI 1994) to store empty artillery charge containers and propellant drums. Trace amounts of propellant were observed in the containers stored at the site during the January 1995 site reconnaissance.

No contaminants were detected above background levels.

Estimated risks meet EPA acceptable levels. No further action necessary. Site noted Response Complete in AEDB-R in October 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:

Propellants, Explosives, Nitrates, Metals

MEDIA OF CONCERN:

Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:

PA/SI, RFI

CURRENT IRP PHASE:

RC - 1997

INAAP-62
BUILDING 706-4 (LABORATORY)

SITE DESCRIPTION

The Stability Laboratory Building 706-4 is a 34-foot x 30.5-foot brick building located in the P&E Area. A 12,000-gallon No. 2 fuel oil AST is located on the south side of the building. The AST is surrounded by a large gravel berm. Building 706-4 was used to run static tests on nitrocellulose. The method of storing and disposing of nitrocellulose materials after testing is unknown. A warning sign of possible exposure to respirable asbestos is posted on at least one of the doors providing access to the laboratory.

Future work, if any, will be funded under the P&E Area (INAAP-63).

STATUS

RRSE RATING: NE

CONTAMINANTS:

VOCs, SVOCs, Metals, Explosives, Propellant, Nitrates

MEDIA OF CONCERN:

Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:

PA/SI, RFA

CURRENT IRP PHASE:

RC - 1997

INAAP-64
RAILROAD TIE DISPOSAL AREA

SITE DESCRIPTION

The Railroad Tie Disposal Area is located on the north side of Jersey Avenue, east of Landfill Road, and north of the P & E Area. The site is situated along the sides of an ephemeral stream drainage gully. A small grass-covered, flat area is located on the east side of the gully. Piles of railroad ties were observed on the north and west sides of this grassy area and on the west side of Jersey Avenue during the January 1995 site reconnaissance. The site appears to have been used predominantly for the disposal of railroad ties. No other types of debris were observed at the time of the January 1995 site reconnaissance, although it is unknown what other types of waste may have been disposed of at the site. It is unknown if any railroad ties or other wastes were buried in the flat grassy area.

No further action recommended by the Army based on sampling results from the previous excessing study. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFA

CURRENT IRP PHASE:
RC - 1997

INAAP-65
RAIL SHIPHOUSE AREA

SITE DESCRIPTION

The Rail Shiphouse Area occupies about 730 acres and includes 76 shiphouses that were used to store propellants. The shiphouses are wood framed with transite siding and wood floors. An estimated 6 million cans have been flashed in this area since the mid 1970's. Sites 8, 21, 24, 51, and 65 are located within the Rail Shiphouse Area.

No chemicals were detected above background levels, and all reporting limits were below EPA Region IX PRGs. Therefore, no risk screening evaluation was completed.

Estimated risks meet EPA acceptable levels. No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Propellants, Nitrates, Explosives, Metals

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-66
STATIC TEST AREA

SITE DESCRIPTION

The Static Test Area is located north of Fourteen Mile Creek on an 860-acre parcel of land that is now part of the Charlestown State Park. There are no buildings standing at the site, and it appears to be grass-covered with scattered trees in aerial photos from 1987 and 1993. This area was used to test nitroglycerin/nitrocellulose-propelled rocket motors during World War II, and was shut down at the end of the war. It was recommissioned in 1970 and shut down again in 1973 and has remained closed since. The site was reportedly decontaminated at the time of both shutdowns (USATHAMA 1980).

A contamination survey of the Static Test Area and Former Burning Ground (Site 67) was done in 1981 (ESE 1981). Based on previous studies and a letter from USEPA Region 5 (1992) that recommended no further sampling and testing for the excess area, which includes the Static Test Area, no further action was recommended during preparation of the SAP.

Site noted Response Complete in AEDB-R in September 1992.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Propellant, Explosives, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED PHASE:
PA/SI, RFI

CURRENT PHASE: RC - 1992

INAAP-67
FORMER BURNING GROUND

SITE DESCRIPTION

The site is located on a flat area at the top of a limestone bluff with a 220-foot vertical drop from the top of the bluff to Fourteen Mile Creek and the Ohio River floodplain. There were two sets of eleven trenches at the site, with one set of trenches in the north half and one set in the south half. An earlier investigation of the site (ESE 1981) reported that several sinkholes were scattered throughout the site. This facility was used to burn waste materials from the Static Test Area in the 1940s and nitrocellulose-based explosives from the LAP area until 1958 (USATHAMA 1980). Waste materials were burned in open trenches.

Thirty soil samples were collected from the 0- to 1-foot interval at locations around and within the trenches as part of a previous study (ESE 1981). A study of Burning Ground soils was performed by the U.S. Army Corps of Engineers, Louisville District in 1992. Seven soil samples were collected from the northeast and southeast corners of the Burning Ground, including a drainage in the northeast corner.

Based on a letter from USEPA Region 5 (June 1992) recommending no further sampling and testing for the entire excess area, including the Burning Ground, no further action was recommended. Site noted Response Complete in AEDB-R in September 1992.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Propellant, Explosivess, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED PHASE:
PA/SI

CURRENT PHASE:
RC - 1992

INAAP-68
BUILDING 2601 (MEDICAL CLINIC)

SITE DESCRIPTION

The Medical Clinic (Building 2601) is a 7,500 square-foot facility. This building is connected to Building 2511 by an enclosed hallway. Dates of operation are not known and the building is not currently used. Reportedly, approximately 50 pounds of medical waste and alcohol were removed by a private contractor on a monthly basis.

A review of historical records and a site reconnaissance did not indicate a possible release had occurred. Therefore, no further action was recommended.

Estimated risks meet EPA acceptable levels. No further action necessary. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Medical Waste

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-70
BUILDING 706-2 (LABORATORY)

SITE DESCRIPTION

The Acid Area Analytical Laboratory (Building 706-2) is a 7,400-square-foot, two-story brick building. The laboratory was operational in the early 1940s and early 1950s. Acidic wastes from the laboratory were flushed down the sewer and into P&E Area Flume (Site 54). Groundwater was observed in the basement of the building.

SVOCs and mercury detected in shallow soil.

Estimated risks meet EPA acceptable levels. No further action necessary. Site noted Response Complete in AEDB-R in June 1997.

Future work, if any, will be funded under the P & E Area (INAAP-63).

STATUS

RRSE RATING: Low

CONTAMINANTS:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-71
INSTALLATION USTS (88)

SITE DESCRIPTION

INAAP-71 consists of 82 Underground Storage Tanks (USTs) located throughout the plant. Oil Spill/Pollution Incident Reports were reviewed to assess past releases from USTs. The reports include information on releases that occurred from 1973 to present. Documented releases prior to 1973 were either nonexistent or unavailable for review. Version 2 of the Underground Tank System Information, Tank Data List was examined to identify tanks that may have failed a tightness test. Leaks or spills were documented at USTs associated with Buildings 2701 (site of tank 1101-1); 1001-A, 703-A, and 2714 (site of tank 1101-14).

No further action recommended because it is being addressed as part of the UST program. Site noted Response Complete in AEDB-R in July 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, POLs

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI, IRA

CURRENT IRP PHASE:
RC - 1997

INAAP-72
FORMER USTS 716-2 & 718 (5)

SITE DESCRIPTION

Site 72 consists of five former Underground Storage Tanks (USTs) at Buildings 716-2 and 718, which are located in the P&E Area. Two 8,000-gallon gasoline tanks were located at Building 716-2 and three 10,000-gallon No. 1 Diesel Fuel tanks were located at Building 718. In 1982, the five tanks were filled with sand and abandoned in place. The tanks were subsequently removed in 1992. Soil sampling indicated no contamination. Oil Spill/Pollution Incident Reports were reviewed to assess past releases from the USTs. The reports include information on releases that occurred from 1973 to present. Documented releases prior to 1973 were either nonexistent or unavailable for review. Version 2 of the Underground Tank System Information, Tank Data List was examined to identify tanks that may have failed a tightness test.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, POLs

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI, IRA

CURRENT IRP PHASE:
RC - 1997

No further action was recommended as part of the RI during preparation of the SAP. Any investigative activities are being addressed as part of the UST program. Site noted Response Complete in AEDB-R in July 1997.

INAAP-73
FORMER USTS (3019-B)

SITE DESCRIPTION

Former UST 3019B was located near the southeast corner of Building 3019B in the northeast part of the LAP area. UST 3019B was a 550-gallon tank used to store No. 1 diesel fuel for an emergency generator. A site assessment performed at the time of tank removal determined there was no soil contamination associated with the tank. No analytical information from soil sampling activities associated with the site assessment was available. No documented spills or releases were found during the review of the Oil Spill/Pollution Incident Reports which include information on releases that occurred from 1973 to present. Documented releases prior to 1973 were either nonexistent or not available for review.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, POL

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI, IRA

CURRENT IRP PHASE:
RC - 1997

No further action recommended because it is being addressed as part of the UST program. Site noted Response Complete in AEDB-R in July 1997.

INAAP-74
BLACK POWDER PLANT

SITE DESCRIPTION

The plant occupies approximately 30 acres within a 140-acre grass-covered site. The main structures at the site include a Raw Materials Building, a Process Building, four Glaze Houses, a Screen House, and a Pack House. Auxiliary buildings include a Boiler House/Maintenance Shop and a Change House. Two other facilities are located within the site boundaries; the Black Powder Industrial Wastewater Treatment Plant (Site 15) and the Black Powder Sewage Treatment Plant (Site 14).

Construction of the plant was completed in December of 1978, and debugging continued through 1979. In 1980, inert material was processed by the system during proveout and process modifications continued through August 1982. During February and March 1983, 2,200 pounds of live black powder were produced. The plant was deactivated immediately following proveout and has not been reactivated.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Black Powder, Nitrates, Sulfides

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

A records review and site reconnaissance were conducted in December 1994. No visible signs of contamination (stained surface soil or distressed vegetation) were observed. The buildings appeared clean, and no hazardous wastes were observed. The records review revealed that 13,000 gallons of No. 2 fuel oil had been released from Storage Tank 824, an aboveground tank west of the Boiler House/Maintenance Shop. The release from this tank is addressed as part of Site 83.

No further action was recommended during preparation of the PA report because there was no evidence of a possible release associated with this site. Site noted Response Complete in AEDB-R in July 1997. Any action, if needed, will be funded/addressed under INAAP-83.

INAAP-75
LOAD, ASSEMBLE AND PACK AREA

SITE DESCRIPTION

The Phase I RI at Site 75 included the collection and analysis of 12 shallow soil samples and five sediment samples. Chemical analysis included explosives, metals and nitrate/nitrite. One sample was also analyzed for VOCs and SVOCs.

The LAP area occupies about 4,327 acres and includes nine Load Lines and three Ignitor Lines. In this area, igniters were produced and finished charges assembled. The LAP area was active during war-time periods since 1942. Activity today is low and intermittent. The topography in the area ranges from 490 feet above MSL to 570 feet above MSL with several sinkholes located throughout the area. The LAP area is within the Lentzier Creek drainage basin and primarily drains through the central branch.

The Phase II RFI was completed in FY02. Supplemental investigation was completed in FY03. In FY04, NFA was approved.

STATUS

RRSE RATING: Low
CONTAMINANTS:
VOCs, SVOCs, Metals, Explosives, Nitrates
MEDIA OF CONCERN:
Soil, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI, CMI
CURRENT IRP PHASE:
RC - 2004

INAAP-76
IGLOO AREA (177)

SITE DESCRIPTION

The Igloo Area occupies about 1,700 acres and includes 176 earth-covered igloos that have been used to store propellants since 1941. Igloo 5185 was destroyed in an explosion in 1966. The topography in the area ranges from 450 to 590 feet above MSL with several sinkholes located throughout the area. Igloos are located in areas that are relatively flat and grass covered. The topography is quite steep at places along the drainage basins and is generally wooded. The Igloo Area drains to Battle Creek and the East Branch of Lentzier Creek.

The Phase I RI at INAAP-76 included the collection and analysis of six shallow soil samples and two sediment samples. Chemical analysis included explosives and nitrate/nitrite. Two samples were also analyzed for VOCs and SVOCs.

Low levels of SVOCs detected at Igloo 5185.

RFI completed by USACHPPM to address surface soils. Additional investigation conducted confirmed no contamination in the groundwater.

Area submitted for NFA, waiting for IDEM approval.

STATUS

RRSE RATING: Medium
CONTAMINANTS:
VOCs, SVOCs, Metals, Propellant, Explosives, Nitrates
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
RC - 2002

INAAP-77
TRUCK SHIPHOUSE AREA (38)

SITE DESCRIPTION

The Truck Shiphouse Area lies along an approximately 2-mile strip, occupies about 500 acres, and includes 38 shiphouses that have been used to store propellants and finished charges since 1941. The shiphouses are wood framed with transite siding and wood floors. The topography of the area is relatively flat and grass covered. The Truck Shiphouse Area is primarily within the Jenny Lind Run basin, with some of the southern edge located within the Little Battle Creek drainage basin.

No chemicals were detected. IDEM requested additional sampling in areas where vehicles were likely parked to check for surface soil contamination. USACHPPM collected samples in these areas. Contamination was not detected.
Confirmatory sampling was completed by CHPPM in FY01.

No Further Action was accepted by IDEM February 2002.

STATUS

RRSE RATING: NE
CONTAMINANTS:
Propellant, Explosives, Nitrates
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI
CURRENT IRP PHASE:
RC - 1994

INAAP-78
BUILDING 2525 (CONTAINER RENOVATION)

SITE DESCRIPTION

Container Renovation was housed in Building 2525 within the 1500 Area Shops. The Container Renovation building is approximately 400 feet by 70 feet. The building was constructed in 1954 and was used for container renovation until late in 1993. Container renovation took place inside the building, and the process entailed reshaping, stripping, and painting containers. The building has metal-insulated walls and a metal roof. The floor is made of concrete with no interior floor drains. Empty containers for shipping and storing charges were stored on pallets outside the building on the south and east sides, both before and after renovation. The building is no longer used for container renovation, and the plant now contracts for off-site renovation of the containers. Perched water was encountered in a shallow soil sample and soil borings (Site 44 investigation), most likely attributable to heavy rains prior to the sampling event. Arsenic and TPH concentrations exceeded screening criteria. Estimated risks meet EPA-acceptable levels. Estimated risks meet EPA acceptable levels. No further action necessary. Site noted Response Complete in AEDB-R in October 1997.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Propellant, Explosives, Nitrates

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-79
FIRING RANGE

SITE DESCRIPTION

The Firing Range is located along the Ohio River floodplain, approximately 700 feet west of the river. The site is bounded on the west by a wooded hillside and on the east by an access road. The site consists of six hand-gun targets built in front of a hill. The ground area in front of the targets is covered with sand and gravel, bordered with railroad ties, and has some vegetation growing through the sand and gravel. Behind the targets, the hill is covered with trees, brush, and other small plants. A review of historic aerial photographs shows the Firing Range was built sometime between 1949 and 1960. It is still used by INAAP security personnel for training with .45- and .38-caliber revolvers and M16 rifles (ASI 1994). Training with white smoke canisters also occurred at the Firing Range. According to a previous report (ASI 1994), the Army Reserve reclaims their own brass and lead from the range. However, the December 1994 site visit revealed that the depression in the hill behind the targets contained unrecovered lead slugs and brass casings. Lead slugs were also embedded in the targets and in the trees behind the targets. This site is not eligible for IRP funds.

STATUS

RRSE RATING: NE

CONTAMINANTS:
Metals

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-80
1500 AREA SHOPS (BUILDING 1503)

SITE DESCRIPTION

The 1500 Area Shops includes several inert storage warehouses, a fire station, several maintenance shops, container renovation building, and a garage and gas station building. The buildings have concrete foundations and corrugated galvanized metal siding. The historical aerial photograph review shows that most of the buildings were constructed prior to 1949. The buildings are connected to the LAP Area Wastewater Treatment Plant.

A review of historical records and a site reconnaissance did not indicate a possible release had occurred. Therefore, no further action was recommended during preparation of the PA report.

Future action, is needed, will be funded under INAAP-45.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, Pesticides, POL, PCBs

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-81
BUILDING 707-5 (PESTICIDE STORAGE)

SITE DESCRIPTION

The Pesticides Storage Building 707-5 is located within the P&E Area (Site 63). Building 707-5 is a single-story, brick building with a total floor space of about 2,600 square feet. The building was built in 1941 and was used to mix and store herbicides and pesticides. Storage rooms are diked, and the mixing room has sinks that are connected to the sanitary sewers. Pesticides and herbicides for large applicators were reportedly mixed near the water spigot on the south side of the building (i.e., near back entrance). Herbicides and pesticides still on-hand in 1995 were disposed of off-plant by a private contractor. No documented spills were found in records. Site reconnaissance revealed no visible signs of contamination. The building is surrounded by a crushed rock parking lot. The area surrounding the parking lot is relatively flat and grass-covered.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Pesticides

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

No chemicals were detected in soil at concentrations exceeding EPA Region IX PRGs and none even exceeded 50 percent of the PRG. Thus no further action is necessary and the site is response complete. Future work, if any, will be funded under the P & E Area (INAAP-63).

INAAP-82
BURIAL PIT

SITE DESCRIPTION

The Suspected Propellant Burial Area East of P-Loop covers about one acre and consists of waste materials dumped in a low area. The site is currently level, overgrown with grass and weeds, and surrounded by trees. The southern edge of the burial area is about 10 to 12 feet above natural ground surface. Various refuse and construction debris is visible at the site. Construction debris consisting of asphalt, concrete, bricks, gravel and wood ties, was observed on the ground surface and at depths of up to 8 feet bgs over the majority of the burial area. Groundwater was encountered at depths ranging from 6.5 to 12.3 feet bgs.

Low Levels of VOCs and metals and elevated levels of SVOCs were detected in soils. Estimated risks meet EPA acceptable levels. No further action is planned for this site.

STATUS

RRSE RATING: Low
CONTAMINANTS:
VOCs, SVOCs
MEDIA OF CONCERN:
Soil, Groundwater
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
RC - 2003

INAAP-83
INSTALLATION ABOVEGROUND STORAGE TANKS

SITE DESCRIPTION

This site was designated to evaluate the 66 aboveground storage tanks located throughout INAAP. The tanks were used to store petroleum products, including gasoline, diesel fuel, No. 2 fuel oil, and No. 6 fuel oil. The scope of the preliminary assessment at these tanks focused on a records search completed in December 1994. Site reconnaissance was completed at all tanks in January 1995 and April 1995. Eight of the original 66 ASTs were recommended for confirmational sampling.

The Phase I RI at INAAP-83 included the collection and analysis of soil samples from each of the eight AST sites. Chemical analysis included TPH.

Elevated levels of TPH, exceeding the screening criteria (100 mg/kg) were detected in four of the 23 surface samples collected from the eight AST sites. The screening level for TPH is not a risk-based concentration. It is the state of Indiana action level for gasoline and diesel in soil. TPH does not have EPA-established or provisional toxicity factors. Therefore, risk-based PRGs and excess cancer risk and hazard indexes cannot be calculated. Identified as an unfunded requirement to be addressed using non-IRP funds.

STATUS

RRSE RATING: NE
CONTAMINANTS:
VOCs, SVOCs, POL
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED PHASE:
PA/SI, CMI
CURRENT PHASE:
RC - 2004

INAAP-84
DRUM STORAGE AREAS

SITE DESCRIPTION

The Drum Storage Areas are located within the 1500 Shops Area and include areas inside Buildings 1503, 1508, 1511, and 1522. The four buildings were constructed with concrete foundations; 1503 and 1511 have concrete block walls while 1508 and 1522 have corrugated metal siding. Buildings 1503, 1508 and 1511 are connected to the LAP Area Wastewater Treatment Plant. Buildings 1508 and 1522 were built in 1941, and Buildings 1503 and 1511 were built in 1945 (ICI 1991). These buildings have historically been used for materials storage or maintenance shop activities for operations in the LAP Area, according to the 1988 INAAP Industrial Preparedness Plan (ICI 1988a). No other records relating to materials stored in the Drum Storage Areas in the four buildings were found during the December 1994 Records Search.

A review of historical records and a site reconnaissance did not indicate a possible release had occurred. Therefore, no further action was recommended during preparation of the PA report.

STATUS

RRSE RATING: NE

CONTAMINANTS:
VOCs, SVOCs, Metals, POL

MEDIA OF CONCERN:
Soil, Groundwater,

COMPLETED IRP PHASE:
PA/SI, RFI

CURRENT IRP PHASE:
RC - 1997

INAAP-85
1503 DRUM STORAGE AREA

SITE DESCRIPTION

The site is a concrete storage area for Building 1503 (Facilities Maintenance and Spray Paint Booth). It consists of a flat 7-foot by 12-foot concrete pad with a concrete walk that widens to the width of the pad. A 15-foot by 7.5-foot asphalt pad is adjacent to the concrete. Materials stored at this storage area include paint, lacquer, thinners, and varnish (ASI 1994). This storage area was used from the early to mid-1940s to 1989. Perched water was encountered in one boring.

This site is NFA, approved in February 2002.

STATUS

RRSE RATING: Low

Contaminants:
VOCs, SVOCs, Metals, POL

MEDIA OF CONCERN:
Soil, Groundwater

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RC - 1994

INAAP-86
SPILL AREA

SITE DESCRIPTION

The Spill Area is on a railroad spur next to an aboveground fuel oil storage tank farm. The tank farm currently consists of five No. 2 fuel oil storage tanks (three 75,000-gallon and two 18,000-gallon aboveground tanks), a pump house, and a scale house. A gravel-covered earthen dike surrounds the tank farm. The area within the dike is also gravel covered. The railroad spur runs east-west and is located south of the tank farm. This facility was first used when the plant began operation during World War II. On March 4, 1977, 10,000 gallons of No. 2 fuel oil were released from a rail tank car at the site. Spill reports indicate that 100 tons of fuel oil-contaminated soil, along with saturated straw used to absorb the release, were buried in a separate trench in Landfill 2, the plant's sanitary landfill (Site 2). The storage tanks are not currently in use.

TPH was detected in soil at concentrations that exceeded screening criteria. TPH does not have EPA-established or provisional toxicity factors. Therefore, risk-based PRGs and excess cancer risk and hazard indexes cannot be calculated. No further action is planned for this site.

STATUS

RRSE RATING: NE
CONTAMINANTS:
VOCs, SVOCs, POL
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
RC - 2003

INAAP-87
BUILDING 6611 SEWAGE COLLECTOR TANK

SITE DESCRIPTION

Contamination attributable to this site would be associated with the Building 6611 Sump, which consists of a pumping station, underground sewage collection tank and drain field. Sewage water from the 1500 Area gravity flows to the pumping station where it is then pumped to the LAP Sewage Treatment Plant (Site 13). Overflow from the pumping station is diverted to the underground sewage collection tank. During high water conditions, overflow from the collection tank enters into the drainage fields. The drainage fields consist of distribution tiles on top of crushed limestone with collector tiles at the bottom that collect and discharge water to a sinkhole. The pumping station and collection tank are surrounded by an earthen berm approximately eight feet high. Storm water within the bermed area that overflows is directed to a drainage ditch that discharges into the West Branch of Lentzier Creek. Stormwater runoff outside the bermed area flows directly into the West Branch of Lentzier Creek or into drainage ditches that discharge into the creek.

SVOCs and TPH were detected in sediment within the drainage ditches during the Phase I RI. Estimated risks were calculated to be within EPA acceptable levels.

STATUS

RRSE RATING: Low
CONTAMINANTS:
VOCs, SVOCs, Metals, PCBs
MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water
COMPLETED IRP PHASE:
PA/SI, RFI
CURRENT IRP PHASE:
RC - 2002

INAAP-88
ABANDONED STORAGE TANK AT BLACK POWDER PLANT

SITE DESCRIPTION

This site is not in AEDB-R.

Site 88 consists of a former UST resting on the ground surface along the eastern access road to the Black Powder Manufacturing Facility (Site 74). The origin of this UST is unknown; it is assumed that the UST was a heating oil UST for the former NG Paste Facility, which was only partially constructed and never active. The NG Paste Facility was razed for the construction of the Black Powder Manufacturing Facility, and the UST was presumed to have been removed during the razing effort. As a result, it is unlikely that the UST was ever used.

Estimated risks meet EPA acceptable levels, thus no further action is necessary and the site is response complete.

STATUS

RRSE RATING: NE

CONTAMINANTS:
POL

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED PHASE: PA/SI

CURRENT PHASE: RC

INAAP-89
PROPELLANT CONTAMINATED SEDIMENTS (JLR)

SITE DESCRIPTION

This site consists of sediments along Jenny Lind Run which contain residual propellant grains as a result of previous releases or improper disposal of off-specification propellant. The site primarily consists of a narrow corridor of propellant-bearing sediments along the entire length of Jenny Lind Run. The site was established subsequent to the commencement of this investigation, in association with the P & E Flume (Site 54).

The Army is currently evaluating this site as a potential for removal action based on safety hazards associated with released propellants.

Future action is necessary to define the nature and extent of contamination. In addition, it will be necessary to complete adequate characterization to determine if remedial response is necessary. The type of remediation anticipated is unknown at this time. This site will be grouped under site 25.

STATUS

RRSE RATING: Medium

CONTAMINANTS:
VOCs, SVOCs, Metals, Propellant , Explosives, Nitrocellulose, POL, PCBs

MEDIA OF CONCERN:
Soil, Groundwater, Sediment, Surface Water

COMPLETED IRP PHASE:
PA/SI

CURRENT IRP PHASE:
RC - 1996

Schedule

PAST MILESTONES

IRP Phase	Completion Date
Installation IRP Start Date	1980
IRP PA	1980
PA/SI Completion (72 Sites)	1992
PA/SI Completion (INAAP 66 and 67)	1993
PA(13 Sites)	1995
Phase I RI(65 sites)	December 1998

PROJECTED MILESTONES

Site Remedial Action	Completion Date
INAAP-01 CMI	FY 2008
INAAP-04, 05 CMI	FY 2005
INAAP-06 CMI	FY 2007
INAAP-19 CMI	FY2005
INAAP-25 CMI	FY2005
INAAP-26 CMI	FY2006
INAAP27 CMI	FY2006
INAAP-28 CMI	FY2006
INAAP-34 CMI	FY2006
INAAP-44 CMI	FY2005
INAAP-45 CMI	FY2004
INAAP-46 CMI	FY2006
INAAP-54 CMI	FY2005
INAAP-56 CMI	FY2006
INAAP-59 CMI	FY2006
INAAP-60 CMI	FY2006
INAAP-63 CMI	FY2007
RIP	2008
RC	2030

NO FURTHER ACTION SITES

INAAP-02A	New Landfill (Sanitary)	
INAAP-02B	New Landfill (RCRA)	
INAAP-03	North Ash Settling Basin	IDEM approval
INAAP-07	Bldg 714-18 RCRA 90-Day Storage	IDEM approval
INAAP-08	Bldg 229-1 (Scrap Powder 90-Day)	USFW approval
INAAP-09	Building 722-23 (PCB Storage)	
INAAP-10	P&E Area Sewage Treatment Plant	IDEM approval
INAAP-11	River Ridge North Sewage Treatment Plant	IDEM/USFW approval
INAAP-12	River Ridge South Sewage Treatment Plant	IDEM/USFW approval
INAAP-13	LAP Area Sewage TP	IDEM approval
INAAP-14	Black Powder Sewage Treatment Plant	IDEM approval
INAAP-15	Black Powder Industrial WTP	IDEM approval
INAAP-16	P&E Neutralization Facility	IDEM/USFW approval
INAAP-17	Burning Ground	IDEM approval
INAAP-18	Flashing Rack	
INAAP-20	Caustic Cleaning Facility	IDEM approval
INAAP-21	Bldg 229-156 (Lead Bag Storage)	USFW approval
INAAP-22	Suspected Propellant Burial Area	IDEM approval
INAAP-23	P&E Sinkhole	IDEM approval
INAAP-24	Suspected Propellant Burial (P-Loop)	IDEM approval
INAAP-29	Bldg 228-1 Septic Tank	IDEM/USFW approval
INAAP-30	Bldg 4951 Septic Tank	IDEM/USFW approval
INAAP-31	Bldg 2662 Septic Tank	IDEM/USFW approval
INAAP-32	Bldg 706-3 (Lab)	
INAAP-33	Farmhouse Basement Bural Pit	IDEM approval
INAAP-35	Building 706-1 (Lab)	IDEM approval
INAAP-36	Bldg 228-1 (Ballistics Lab)	IDEM approval
INAAP-37	Bldg 1503 Spray Paint Booth	IDEM/USFW approval
INAAP-38	Inert Area Can Burial	IDEM/USFW approval
INAAP-39	Paint Sanitary Sewer Systems (7)	
INAAP-40	Motor Pool (Bldgs 2551, 2551A, 2561)	
INAAP-41	Parts Cleaner Systems	IDEM/USFW approval
INAAP-42	Bldg 2535 AG Solution Storage Area	IDEM/USFW approval
INAAP-43	Bldg 2581 Accumulation Area	IDEM/USFW approval
INAAP-44	Bldg 2525 Wheelabrator Bag Houses	
INAAP-47	Powder Prep Can Burial Area	IDEM/USFW approval
INAAP-48	Rail Shiphouse Can Storage Area	IDEM approval
INAAP-49	1500 Area Disposal Pit	IDEM/USFW approval
INAAP-50	Screening Bldg Sumps (2)	IDEM/USFW approval
INAAP-51	Rail Shiphouse Burial Area	IDEM/USFW approval
INAAP-52	Rail Car Burning Area	IDEM approval
INAAP-53	Bldg 104-3 Cotton Dry House	IDEM approval
INAAP-55	Inert Area Burning Ground	IDEM approval
INAAP-57	Bldg 719-1 (Lab)	IDEM approval
INAAP-58	Building 1503 Paint Accumulation Area	IDEM approval
INAAP-61	Inert Area Can/Drum Storage Area	IDEM/USFW approval

NO FURTHER ACTION SITES

INAAP-62 Bldg 706-4 (Lab)	
INAAP-64 Railroad Tie Disposal Area	IDEM/USFW approval
INAAP-65 Rail Shiphouse Area	
INAAP-66 Static Test Area	IDEM/USFW approval
INAAP-67 Former Burning Ground	IDEM/USFW approval
INAAP-68 Bldg 2601 (Medical Clinic)	IDEM/USFW approval
INAAP-69 Landfill (4&5)	IDEM approval
INAAP-70 Bldg 706-2 (Lab)	IDEM approval
INAAP-71 Installation USTs (88)	IDEM approval
INAAP-72 Former USTs Buildings 716-2 & 718 (5)	IDEM approval
INAAP-73 Former USTs (3019-B)	IDEM approval
INAAP-74 Black Powder Plant	IDEM/USFW approval
INAAP-75 Load, Assemble and Pack Area	
INAAP-76 Igloo Area (177)	NFA
INAAP-77 Truck Shiphouse Area (38)	IDEM/USFW approval
INAAP-78 Building 2525 (Container Renovation)	IDEM approval
INAAP-79 Firing Range	
INAAP-80 1500 Area Shops (Building 1503)	IDEM approval
INAAP-81 Bldg 707-5 (Pesticide Storage)	IDEM/USFW approval
INAAP-82 Burial Pit	IDEM approval
INAAP-83 Installation Above Ground Storage Tanks (88)	
INAAP-84 Drum Storage Areas	IDEM approval
INAAP-85 1503 Drum Storage Area	IDEM approval
INAAP-86 Spill Area	IDEM approval
INAAP-87 Bldg 6611 Sewage Collector Tank	IDEM/USFW approval
INAAP-88 Abandoned Storage Tank at Black Powder Plant	IDEM approval (not in AEDB-R)
INAAP-89 Propellant Contaminated Sediments (JLR)	IDEM approval

Indiana Army Ammunition Plant IAP Schedule

(Based on Cost to Complete with current funding constraints)

		Current Phase			Future Phase		
		FY05	FY06	FY07	FY08	FY09	FY10+
INAAP-01	CMD						
	CMI						
	LTM						
INAAP-04	CMI						
	RA(O)						
INAAP-05	CMI						
	RA(O)						
INAAP-06	CMI						
	LTM						
INAAP-19	CMI						
INAAP-25	CMI						
	RA(O)						
INAAP-26	CMI						
INAAP-27	CMI						
INAAP-28	CMI						
	LTM						
INAAP-34	CMI						
INAAP-46	CMI						
INAAP-54	CMI						
	LTM						
INAAP-56	CMI						
INAAP-59	CMI						
INAAP-60	CMI						
	LTM						
INAAP-63	RFI						
	CMD						
	CMI						
INAAP-90	RFI						

Remediation Activities

Past REM/IRA/RA

INAAP-45, Drainage for 1500 Area, soil removal ~300 cy

Current REM/IRA/RA

INAAP-04/05, South Ash Settling basin and Aniline Pond will begin on channel improvement, sink hole improvements and ~2.5 acre soil cover.
INAAP-19, Salvage Yard soil removal
INAAP-25, Jenny Lind Pond, dam repair, erosion control, hot spot removal, soil cover.
INAAP-54, P&E Flume, sink hole improvement, sediment traps and hot spot soil removal.
INAAP-75, Load Assembly and Pack Area, removal ~ 1000cy special waste soil.

Future REM/IRA/RA

INAAP-01, Old Landfill Soil cover ~20 acres
INAAP-06, Dam rehabilitation, channel stabilization, phytostabilization and hot spot removal
INAAP-26, Old Trash Burning Area, soil cover 1.2 acres
INAAP-27, Building 714-5 (Lead Smelting Shed), hot spot soil removal, soil cover 0.5 acres
INAAP-28, Drainage Area Dumping Ground, hot spot soil removal, soil cover 0.1 acres
INAAP-34, Trash Incinerator, hot spot soil removal, soil cover 0.2 acres
INAAP-44, Building 2525, soil removal
INAAP-46, Soil cover 3.7 acres
INAAP-56, Hot spot removal, soil cover 0.1 acres
INAAP-59, Soil cover 1.9 acres
INAAP-60, Soil cover 4 acres
INAAP-63, P&E Area, fencing, hot spot soil and sediment removal, disposal
Note: INAAP-26, INAAP-27, INAAP-28, INAAP-34, INAAP-46, INAAP-56, INAAP-59, and INAAP-60 are being addressed together and are collectively referred to as the Burning Ground Area

Community Involvement

A. Status of Community Involvement

To date there has been limited community involvement. The Army continues to keep the local community appraised of upcoming activities and status through public announcements, press releases, and meetings. In addition, INAAP has established an Administrative Record that is maintained at the facility and is available for public review.

B. Determining Interest In Establishing RAB

In January and February 1998, October 2001, and again in October 2003, INAAP canvassed its surrounding communities for potential interest in establishing a Restoration Advisory Board (RAB). After all efforts were completed, the Installation Commander determined that there was not enough sustainable community interest to establish a RAB.

1. Efforts Taken To Determine Interest

INAAP conducted the following to assess potential interest in establishing a RAB:

(1) Advertised in the Louisville Courier Journal and the Charlestown Leader in January/February 1998.
(2) Similar advertisements were published in FY01 (October 2000) and FY04 (October 2003). The results to this poll for interest were the same as in FY98.

2. Results of Efforts to Determine Interest in a RAB

(1) No response was received from the community or regulatory agencies.

3. Conclusions Concerning Establishing a RAB

Based on the results of INAAP's efforts to determine interest in forming a RAB, the Installation Commander determined that there was not sufficient diverse interest to establish and sustain a RAB at this time.

4. Follow-up Procedures

INAAP is committed to involving the public in its restoration program and recognizes that interest in restoration activities can change. INAAP has developed an internet website with installation background and status information. An administrative record has also been established where members of the public can access documents pertinent to the investigation and cleanup of the INAAP facility.

Community interest activities will again include survey of interest via mailing lists, newspaper advertisements, and public meetings.

C. Interest in the Technical Assistance for Public Participation (TAPP) Program

With no RAB there currently is no interest in the TAPP Program.

FY2005

Indiana Army Ammunition Plant

Installation Action Plan

FY2005

Indiana Army Ammunition Plant

Installation Action Plan

FY2005

Indiana Army Ammunition Plant

Installation Action Plan

FY2005

Indiana Army Ammunition Plant

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